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May 19, 2003 Volume 20, Number 20

lechnology Wireless LAN switches

At least 10 vendors have jumped on the WLAN switch bandwagon. In this Technology Insider. we describe the players and how they're attempting to stand out from the crowd.

Page 43.



Aruba's new switch and 802.11 a/b access point.

The ROI of wireless LANs:

Here's a handy calculator that can help you determine the costs and the benefits of an investment in wireless technology.

Page 48.

on Web services

BY JOHN FONTANA

Galileo International hit a home run last year with a pilot of

four Web services designed to help extend the reach of its travel booking and itinerary services.

The number of Galileo customers using the services now in production mode — has risen from one to 35, and those customers are clamoring for more. The company, buoyed by cost savings and new business opportunities associated with the project, last week started rolling out Web services globally. Galileo

also is taking the next step by building a service-oriented architecture (SOA) for use across the Travel Distribution Services divi-

> sion of parentcompany Cendant.

> "Getting into this game was the most im-

portant step," says Todd Dubner, vice president of product innovation for the Parsippany, N.J., company."Now that we are in it, we are reaping rewards that we could not forecast a year and a half ago."

Galileo was one of three Web services pioneers profiled by Network World about a year ago

See Web services, page 64

Users still bullish Tricky worm triggers new P2P alarms

BY ELLEN MESSMER

A dangerous worm called Fizzer that last week was discovered sneaking its way into U.S. corporate networks via the Kazaa peerto-peer program has raised anew concerns that such file-sharing networks are risky business.

Many organizations have banned peer-to-peer applications, concerned that the programs will

hog bandwidth or put companies at risk of copyright violations. But peer-to-peer programs were designed to evade detection through port-hopping and other methods, which means millions of employees still are using them on the sly — much to the delight of worm and virus writers.

"If you're writing computer viruses, this is where you want to

See Fizzer, page 63

Cisco learning to roll with the punches

BY PHIL HOCHMUTH AND JIM DUFFY

Seems like it was just yesterday that Cisco CEO John Chambers was touting 20% to 30% annual growth for his company. But the days of such eternal optimism and bravado are long gone — five years, 66 acquisitions and a \$400 billion swing in market value gains and losses will change your

perspective.

Without a doubt Cisco has amassed a huge following. However, there are questions about where the company goes from here.

With routing and switching markets in its pocket, Cisco will con-

sources and massive installed base to move into new markets as well as expand its presence in storage, security, wire-

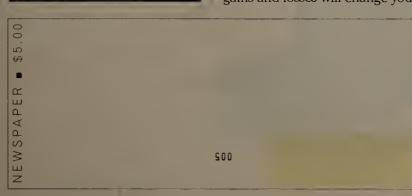
tinue using its re-

less and IP telephony.

But some observers say Cisco really needs to scramble to reinvent itself as the routing and switching markets decline.

In the meantime, the company is keeping its prices relatively high to keep up some semblance of the growth Cisco enjoyed when users were buying network gear at a more rapid pace.

See Cisco, page 12







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ThinkPad Notebook Accessories

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The new Palm Tungsten C PDA includes integrated 802.11b WLAN connectivity.

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Symbol was the first vendor to ship WLAN switches.

The ROI of WLANs: Here's a handy calculator that can help you determine the costs and benefits of an investment in wireless technology. Page 48.

NetworkWorldFusion

Interactive

The SCO lawsuit and you

Now the SCO Group is warning that even end users could face penalties for using what it considers purloined code in Linux. Your thoughts.

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Personal firewalls for dial-up users

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Wireless switching research center

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Cisco's new security plans

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Biometrics for small business

Columnist Jeff Zbar says you might want to consider trading in your PINs and passwords for prints.

DocFinder: 5954

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New

Ethernet blast

The top speed of Ethernet could hit 40G bit/sec within the next two years, a senior Cisco executive said last week. Developing 40G Ethernet would pose less-steep technical challenges than creating a 100G Ethernet technology, which would be the next mathematical step, according to Luca Cafiero, senior vice president and general manager of switching, voice and storage at Cisco. In fact, 40G Ethernet should be technically feasible within two years, he told reporters and analysts at an educational briefing on switching at Cisco's headquarters in San Jose. Cafiero, an Ethernet pioneer who co-founded seminal LAN switch vendor Crescendo Communications, said he believes the Catalyst 6500 platform's per-module capacity of 40G bit/sec could be doubled, but the timing of that speed boost will be determined by customer demand.

Dollars to doughnuts

Imagine waving your mobile phone at a filling pump to pay for gas or tapping it on some tiny gadget to buy a bag of doughnuts. That's the vision of Nokia and MasterCard, which have teamed to test technology they hope will someday give mobile phones new wireless credit card capabilities. In a market trial to begin later this month in Irving, Texas, Nokia will distribute phones with snap-on covers that have an embedded Radio Frequency ID chip. The chip is programmed with preregistered MasterCard payment account information, using the company's "PayPass" technology. Consumers, for instance, can tap or wave their Nokia phones equipped with the vendor's SmartCover technology on or at any specially equipped PayPass readers at point of sale, according to Nokia. The chip then transmits payment account information to the terminal, which is connected to the MasterCard payment network. A system provided by JP Morgan Chase & Co. processes the payment account information. The process should take only several seconds.

Some days it doesn't pay to get out of bed

■ Last week wasn't a good one for telecom provider Allegiance Telecom. First, the company filed for bankruptcy in the U.S. Bankruptcy Court for the Southern District of New York after failing to cut its \$1.2 billion debt load by half as promised by the end of April. Then the Dallas company said its losses grew in its most recent quarter, reporting a net loss of \$120.1 million compared with a loss of \$112.6 million a year earlier. The final insult came as construction workers in Boston cut through four Allegiance OC-48 links, sending telephone and Web traffic from hundreds of businesses into the abyss.

IBM decides to Think

IBM last week announced it had closed a deal to acquire Think Dynamics, a Toronto maker of automated server provisioning software. Think Dynamics' technology and staff

MUICALINA

Going over to the Borg

Robert Scoble recently started working for Microsoft. He writes that the new-employee orientation was not what you'd think: "No, I didn't get implants, but I got a blue badge. Where's the Kool-Aid? The red pills? The Darth Vader breathing apparatus?"

Read more at www.nwfusion.com, DocFinder: 5941.

TheGoodTheBadTheUgly



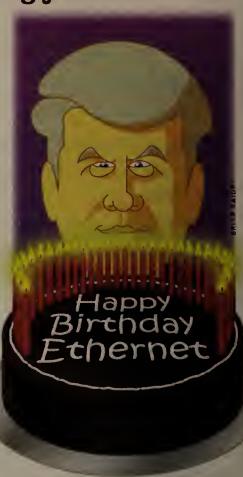
Happy birthday, Ethernet.

Ethernet, unlike so many of us, actually does seem to get better with age, what with Gigabit Ethernet and even 10G Ethernet now on the scene. The technology's creator, Bob Metcalfe, is readying for a May 22 celebration of Ethernet's 30th birthday at the Palo Alto Research Center, a Xerox subsidiary better known as PARC.



A fate worse than ATM

fees? Bank of America customers have been targeted by scam artists who are e-mailing bank clients in hopes of getting them to log on to a fake Web site which then captures their personal financial details. The bank issued a warning to customers to be aware of the scam, which is similar to scams pulled recently in Australia.





Down the toilet. An item that appeared in this space last week — as well as in many other media outlets in recent weeks — highlighted a new Internet-enabled toilet supposedly in the works at Microsoft's MSN UK. Early last week, though, Microsoft said the "iLoo" was nothing but a prank. Later in the week, the company said the iLoo had in fact been on the drawing board, but was killed. Who would have thought you couldn't believe Microsoft?

immediately will be integrated into Big Blue's management software division Tivoli, with those employees moving to IBM's labs in Toronto. The financial details were not disclosed. Tivoli General Manager Robert LeBlanc said Think Dynamics technology will add automated provisioning to IBM's eServer, eSourcing and On-Demand initiatives. Think Dynamics' Think Control Suite lets users pool server resources and uses policies to automate provisioning of those resources. IBM will continue to sell Think Dynamics' products individually and will integrate the technology across its software, hardware and services divisions.

Spammers to get to know RICO

■ The U.S. Congress ratcheted up the rhetoric on spam last week when Sen. Bill Nelson (D-Fla.) introduced a bill that would let federal authorities charge spammers with racketeering crimes. The bill is the third introduced in Congress this year focusing on spam. Nelson's bill would allow criminal charges under the Federal Racketeer Influenced and Corrupt Organizations Act, originally used to prosecute organized crime. RICO lets authorities seize the assets of businesses engaged in racketeering, the practice of using an organization to obtain money illegally or intimidate people. It also lets racketeering victims file civil lawsuits against the perpetrators. The charges would be applied to unsolicited bulk commercial e-mail that uses false routing information or forged return addresses, as well as spam sent to someone who asked to opt out. Underscoring the government's efforts, federal and state authorities filed 45 criminal and civil actions against Internet scam artists and bulk e-mailers last week, the Federal Trade Commission says. The FTC also says it will work with 21 U.S. and international agencies to close down "open relays" — unsecured e-mail servers that spammers use to conceal their identities.

Wireless standards groups marry

■ Two groups that have worked together on developing wireless security standards have decided to formally join forces. By mid-June, the PAM Forum, a consortium working on presence and availability security standards within the wireless industry, will become part of the Parlay Group, a multivendor industry consortium encouraging common standards across wireless and other networks. The PAM Forum, created in early 2000, will become the presence and availability management working group within the Parlay Group, which has wireless vendors and operators as its membership base. Members include Ericsson, HP, Lucent and NTT DoCoMo. Presence and availability standards focus on security and privacy on wireless devices, including issues such as keeping unauthorized users off wireless networks. The PAM Forum has worked on a specification consisting of APIs designed to let wireless networks securely share information.



Stop backing tools from threatening network security.



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Desktop blade PCs on tap from HP

W BY JENNIFER MEARS

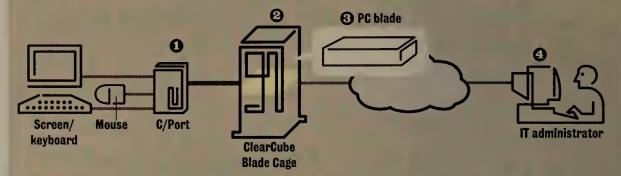
HP is designing a thin-client-like blade PC that sources say will centralize the task of managing individual desktops by moving their intelligence to data centers, where access and security can be controlled more easily.

With blade PCs, employees have a monitor, keyboard and mouse on their desks, along with a client appliance linked to centrally located blade servers packed into a data center chassis. Spare blades could be configured to provide hot backup in case of a failure. The idea is that IT more easily could control access to resources in centrally located racks of servers than in widely dispersed PCs.

"Today's economic climate and the way customers are thinking about better management, better utilization of resources, has also become a desktop issue for some customers," says Hugh Jenkins, vice president of marketing for

Digital desktops

HP is looking to simplify desktop management by introducing a blade PC product that moves desktop intelligence to a centrally located rack server. ClearCube and Avocent offer similiar technology. Here's how the ClearCube product works:



- A client device called a C/Port (Command Port), about the size of a VHS tape with no fans or moving parts, sits at the user's desktop and provides the connections and functions needed for the PC. Peripherals such as the keyboard and mouse hook into this device, which also has USB connections.
- 2 The C/Port connects via Category 5 cable to a dedicated ClearCube blade chassis, which supports the company's Wintel PC blades.
- The blades support network connectivity, applications and storage.
- Management software administrators manage the PC blades from any location.

gai "engaging with select customers" of to address issues such as distance as₁

limitations between desktop and servers that might be curtailing widespread adoption of similar products from other vendors.

Start-up ClearCube, for example, can send signals over Category 5 Ethernet from the blade to its C/Port client device up to 660 feet away. Raj Shah, chief marketing officer at ClearCube, says the company is working on fiber technology that will extend that distance by at least 3,200 feet.

Analysts say HP likely is using some type of hybrid thin-client approach that would lift distance limitations but still give users access to a dedicated blade. In true thin-client systems, users share system resources.

"The advantage of [the hybrid thin-client] approach is that you can switch it, which means you can pump [the bits] across a network. As long as you've got a network, you can install this solution. It doesn't really matter where the blades are or where the desktop is. It will go over the Ethernet," says Rob Enderle, research fellow at Forrester Research.

With the other products, "there has to be a direct cable connection from the blade to the desktop. You can't switch it, because basically the wire has got to be continuous because it just extends the ports," he says.

Keyboard, video, mouse switch maker Avocent Technologies introduced its digital desktop last summer after acquiring digital extension technology from 2C Computing. Its product, which places a Cstation client device on a user's desktop, can send PCl bus signals from a remote PC up to about 2,600 feet away over multimode fiber and up to about 660 feet away over copper lines.

Avocent and ClearCube executives say they have talked with systems vendors such as Dell, HP and IBM about using their technology to create blade PCs.

HP would be the first Tier 1 systems vendor to introduce a blade PC, which might help give the market a kick, analysts say IBM, on the other hand, says it has no plans to introduce blade architecture into its PC products. "Our customers aren't calling for it," an IBM spokesman says.

Not that interest in the devices isn't out there.

"The concept of PC blades is gaining more currency because of the availability and security aspects of it post-9/11," says Roger Kay, director of client computing at IDC. "There are some cost reasons that favor it, as well, particularly support costs, because the real smarts of your system are sitting in one place, which happens to be where your IT people are."

The idea is attractive to the financial industry and educational institutions, where multiple desktops might be packed into small areas, analysts say. Call centers and other applications that require high availability also could benefit from the blade architecture, and factories could use it to get critical computer systems out of dirty work environments.

ClearCube, which has had a blade PC product for more than four years, says it is seeing increasing interest and has more than 400 customers, including Morgan Stanley and British Petroleum. The ability to centrally locate PCs—eliminating clutter on desktops, streamlining IT management and protecting those assets from theft or damage—is gaining attention.

Wayne Rhinehart, project manager at International Paper in Memphis, Tenn., uses Avocent technology to centrally locate Dell servers for his test lab.

"Our LAN group can manage the servers from a central location vs. trying to get under everybody's desk," he says. "It reduces the time that the guys are trying to figure out locations of machines. Probably just the time-savings for technicians is where we get the most bang for our buck."

the Industry Standard Server group at HP.

HP said it was working on a blade client but declined to give other details. The company has a slew of PC-related announcements slated for this week, "but they're not blade-related in any form or fashion," a spokeswoman says. HP also would not disclose technical details about what it is working on, except to say that it is

Extreme drives Gigabit to the desktop with Alpine module

BY PHIL HOCHMUTH

Extreme Networks is looking to spur corporate interest in Gigabit to the desktop with new high-density modules announced this week for its Ethernet switch.

The new blades could help companies with bandwidth-intensive applications push more Gigabit Ethernet to desktops. Alpine chassis loaded with the new modules also could be used to connect clusters of Gigabit-enabled servers.

The two blades include a 16-port mini-Gigabit Interface Converter module (the MG-16X3), and copper-based 10/100/1000M bit/sec module (GM-16T3). Both products are based on Extreme's Triumph ASIC architecture, announced last month, which provides greater port densities and new features over the company's old technology, Extreme says.

Modules based on the Triumph architecture were announced last month for Extreme's BlackDiamond core switch.

Among several new features in the the Triumph architecture is the ability to run diagnostics on Category 5/6 cable connections attached to each port on a Triumph-based blade, Extreme says. The hard-coded diagnostic tools can detect the length of an attached network cable and locate faults in the fiber or copper cable, Improperly terminated cables or misconfigured connections also can be detected on each port. The Triumph-based modules also support rate shaping, letting bandwidth on individual ports be "throttled" from 1M to 1G bit/sec, based on network rules and management criteria.



A new 16-port 10/100/1000 blade for the Alpine could help bring Gigabit Ethernet to the desktop.

Originally introduced as its platform for Ethernet metropolitan-area networks, Alpine also is being used by customers as a chassis for wiring closet switches, typically connecting to an Extreme Black-Diamond box in the core.

The box competes with Cisco's Catalyst 4000 and 6500 series and Foundry Networks' midsize Fastlron Edge switch chassis.

Four Alpine chassis will be deployed this month in wiring closets at the Arizona State Department of Land Management. The switches will include GM-16T3 blades to support bandwidth-intensive applications, such as geographical information system, detailed mapping and satellite imaging tools. The switches will provide Gigabit Ethernet connections to 160 workers who use Gigabit Ethernet-enabled Dell workstations to create detailed images and records for the 9.3 million acres of land the department controls, says William Reed, CTO for the department.

"You don't want to put Gigabit Ethernet on desktops if you're only doing word processing," Reed says. "You really have to come up with the justification for it. You have to be doing something that fills that pipe and have PCs capable of handling that kind of data. And we've got that."

The GM-16X3 costs \$6000 and the GM-16T3 is priced at \$4,500. \blacksquare



It's time the ultimate 64-bit server and the ultimate 32-bit server were the same server.

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Verizon recasts DSL

Wi-Fi access, price cuts and speed increase intended to spur demand, stave off competitors.

BY JIM DUFFY

NEWYORK — Verizon last week revamped its DSL services in an attempt to spur demand and increase its share of the broadband market.

Verizon plans to extend broadband capacity to 80% of its 57.5 million access lines by year-end, and its new DSL packaging and pricing is intended to drive that, company executives say.

Among the regional Bell operating companies, Verizon, with 1.8 million lines, is the No. 2 provider of DSL, behind SBC, which has 2.2 million lines in service.

Increased penetration should help Verizon achieve profitability from its DSL service faster, they add.

A profitable service means more money to roll out more services for business users, which translates into customer loyalty, according to analysts.

"We expect the lower price to reduce churn in the DSL base, a prime contributor to lower margins in DSL," John Hodulik of UBS Warburg said in a bulletin issued last week. "Longer term, this offer is clearly focused on the large cable [operators] in an effort to take back market share in high-speed data and head off competition from cable telephony down the road."

Verizon is rolling out Wi-Fibased wireless broadband Internet access for 1,000 pay phones



THIS WEEK'S QUESTION:

Which U.S. President created the National Security Telecommunications Advisory Committee, a group of up to 30 leading technology industry chief executives?

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in the Search box.

in New York City. This will let Verizon's Online DSL customers who have laptops, PDAs or Pocket PCs gain free wireless Internet access if they are within 300 feet of a Wi-Fi-enabled pay phone — or hot spot.

Verizon already has 150 such hot spots. Three hundred and fifty will be turned on this summer, and 1,000 by year-end, Verizon officials say.

Verizon decreased the monthly entry fee from \$49.95 to \$34.95 for consumers (www.nwfusion.com, DocFinder: 5939), and by \$10 to \$59.95 and \$89.95 for small businesses, depending on the type of DSL service they buy. Verizon also has upped the downstream speed from 768K to 1.5M bit/sec.

Verizon Freedom for Business packages now offer a 20% discount on the monthly recurring charge for any business DSL package, the carrier says. Residential users who purchase

DSL derby

Number of DSL lines in service at the four RBOCs:

2.2 million
1.8 million
1.1 million
500,000

DSL as part of Verizon's Freedom local/long-distance bundled service will get it for \$29.95 per month instead of \$34.95, the carrier says. The new lower rates will become effective for existing Verizon Online DSL customers May 21. Customers will see the new prices on their June and July bills, Verizon says.

The RBOC also has bundled the recast DSL service with Microsoft's MSN 8.0 software, which includes shared browsing tech-

nology, advanced parental controls, e-mail virus protection and spam filters, research and learning tools from MSN Encarta Plus, financial management software, and photo editing.

The new service will soon feature Verizon's Digital Companion service that is currently in development. Digital Companion will let customers integrate calendars, address books and to-do lists with caller ID tracking, call dialing and call forwarding, the carrier says.

Verizon and Microsoft entered into a broadband content delivery relationship last June. SBC has a similar relationship with Yahoo, and the two unveiled their service last September (DocFinder: 5940).

New customers will receive MSN 8.0 with their Verizon Online DSL installation CD, and existing customers can order the CD for free. ■

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Netegrity adds provisioning to user management package

■ BY JOHN FONTANA

Netegrity next month is scheduled to integrate provisioning technology into its user management software to help corporations better manage identities across their networks and secure their resources.

The company is releasing IdentityMinder 5.6, which adds provisioning technology it licensed from Business Layers. Provisioning lets companies automatically set up and deactivate user accounts across systems. Provisioning is being combined into a single user interface with IdentityMinder's capabilities, including role-based access control, process workflow, delegated user administration and employee self-service features such as password reset.

Netegrity is attempting to round out its software to stay in line with a trend known broadly as identity management, which can include access-control products, directories, provisioning, password administration and single sign-on.

The company is in somewhat of a catch-up mode to competitors such as Courion, IBM, Oblix and Waveset Technologies.

Corporations are looking at identity management to better control who is on their networks, and what they are authorized to do, and to lower the cost of user administration.

"There are a lot of reasons to do a better job of automatically establishing user identities, including some current legislation," says Phil Schacter, an analyst with Burton Group. He cites regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act.

Schacter says companies realize that past tools and operational procedures for user management have not been adequate given the increase in the number of internal and external users demanding access to corporate systems.

In that scenario, managing user-account information in multiple locations becomes a security and administrative quagmire.

In addition to adding provisioning to help address the problem, Netegrity has added to IdentityMinder auditing and reporting capabilities, and the ability to create custom workflows for approvals and notifications. IdentityMinder, which is a Java 2 Platform Enterprise Edition application, also supports Web applications servers, including BEA Systems WebLogic, IBM WebSphere and JBoss.

"The most challenging part of any identity management system is to understand the business process around user management," says Amit Jasuja, vice president of product management for Netegrity. "Who are your administrators, business users, managers, and what approval rights do they have [to create accounts]? What is the workflow process and the back-end systems to integrate with?"

IdentityMinder 5.6 has two editions. The Web edition does not include the provisioning software, while Provisioning edition includes the provisioning engine and a set of more than 30 connectors. The Provisioning edition costs \$70 per user and is expected to ship by the end of June.



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Cisco

or it ited from page 1

Stale bread and butter?

Switching and routing make up two-thirds of the company's sales, Cisco reported recently. But these core businesses are on an overall downslide - worldwide router and switch sales shrank 15% and 6%, respectively, the last two years, Dell'Oro Group says — and the technology is becoming increasingly commoditized by new low-end competitors. Because of these factors, there could be much for Cisco to worry about, as some customers might become less willing to spend more on commodity gear, observers say.

With the LAN and WAN markets wrapped up — Cisco has an almost 70% market share in both areas — the company is looking for new markets to conquer, with voice over IP (VoIP), wireless, security and storage being on the short list. Chambers says each of these markets will double in size over the next five to six years and will represent a \$35 billion opportunity overall in worldwide revenue by 2006.

Cisco has seen early success in the VolP, security and wireless markets. Its Architecture for Voice, Video and Integrated Data (AVVID) products, while criticized early on for lack of features and poor reliability, has won over many customers. Cisco's AVVID products represented more than 50% of the market for IP phones and PBX revenue in the fourth quarter of 2002, according to Synergy Research.

"I was a little skeptical when Cisco started to market itself as a phone company," says Phil Go, ClO of Barton Marlow, a Chicago construction company that recently installed the AVVID products. "I said, why is Cisco doing this, but the more you think about it, the more it makes sense," because the industry is moving to converge data, voice and video to IP.

Cisco's security and wireless products also have climbed to the top of their respective markets. The company had 38% share in VPN/firewall appliances and 41% share in network intrusion-detection gear — tops in both arenas last year, according to IDC. And since entering the wireless LAN (WLAN) arena in 1999 with the acquisition of Aironet, Cisco garnered 34% of the market for enterprise WLAN network inter-

face cards and access points (in the third quarter of 2002, according to Synergy).

Cisco's most recent, and most attention-grabbing, push came with a storage-area network (SAN) product debut, with the MDS 9000 Fibre Channel platform. While WLAN, VolP and security all are intertwined in some way with core IP background, the storage market represents uncharted waters for the network giant.

"Our interactions with Cisco have been around routers, switches and IP phones," says Jon Beyman, ClO of Lehman Brothers, the New York brokerage firm." [But storage is] a promising market for them. He adds that if Cisco can make the right partnerships with vendors such as EMC, which Lehman uses, he could see the benefits of having Cisco in the SAN.

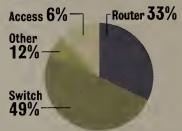
This month, Cisco announced resale deals with EMC, Hitachi, HP and IBM to resell its MDS 9000 storage switch.

IP commoditization

Despite having its core markets wrapped up and strong momentum from its growth enterprise areas, Cisco still needs to work **Core markets**

While Cisco strives to enter new markets, routers and switches remain the bulk of its business for now.

Cisco product revenue categories (Q1 – Q3, '03)



Total product revenue: \$11.7 billion

hard to secure its future, many industry observers say.

"Growth markets like voice, storage, security and wireless have long-term potential, but [Cisco] is not seeing huge revenue streams from those areas," says Mark Fabbi, vice president and research director at Gartner.

"The issue here is commoditization of Cisco's core businesses," says Frank Dzubeck, president and CEO of Communications Network Architects. Cisco has acknowledged new competition in routing and switching, such as Dell and Huawei, which offer low-cost, standards-based gear. Such vendors are "John Chambers' worst nightmare," Dzubeck says, because Dell's distribution channels are of the same scale as Cisco's, and Huawei has lower cost structures.

"There are a lot of new entrants into this market who would like that" switching and routing are commodity technologies, says Charlie Giancarlo, Cisco's senior vice president for switching, voice and carrier systems. "But what we see is customers who don't look to the cheapest possible product per se. They look to the product that will allow them to get what they need to get done, but also operate at the lowest possible [total cost of ownership]. That doesn't speak to commodity products."

Still, Huawei had Cisco worried enough that the firm brought two patent infringement lawsuits against Huawei earlier this year.

"[Huawei] has a cost structure in place that no one in the industry has," says Nick Lippis, president of consulting firm Strategic Networks. A U.S. technology vendor such as Cisco might spend \$140,000 per year, per engineer, he

says, but Huawei can maintain more talent for about half the cost per employee. The recent joint venture with 3Com, which will reself Huawei gear in the U.S., also could prove to be a formidable foe to Cisco.

"Large enterprises are going to have to look at [Huawei's] products, just because they would be delinquent if they didn't," Lippis says.

Talking telecom

Despite its declining core markets and low-cost competitors nipping at its heels, some say a looming telecom market rebound could be the magic bullet for Cisco's woes.

"They're biding their time, trying to find some growth markets and staving off declines in the rest of the enterprise," Gartner's Fabbi says of Cisco, "then preparing for longer term growth spurred by telecom."

Cisco's service provider business hasn't been a happy one as of late. The percentage of revenue from Cisco's service provider line of business has been halved over the past four years, from 40% in 1999-2000 to 20% now. Most of that is attributable to the downturn in the telecom market, where service provider capital spending is now less than half of what it was in 1999-2000.

But Cisco also stumbled in marketing to service providers by preaching instead of listening to what they needed. Cisco now is attempting to re-engage them through interaction with operational personnel within the carriers.

"We count on the service providers to account for a very significant portion of our revenue within four or five years, as high as 40%," says Roland Acra, Cisco senior vice president and service provider CTO. "What we learned is that these guys have a lot of incumbency, a lot of inertia they need to work through. A lot of the improved relations we have with them have to do with us realizing the way forward was to help them through the [circuit-to-packet] transition, and build the tools and the infrastructure, as well as help them with services and [to] go to market."

The improved relations have paid off.SBC is purchasing Cisco's 12000 series Internet Routers for a nationwide OC-192 IP backbone network that is intended to transport services such as Dedicated Internet Access and SBC-Yahoo DSL.

Gaining share While the LAN switch market shrank over the last two years ... Worldwide Layer 2 to Layer 7 LAN switch market revenue (in millions) \$4,000 \$3,500 \$3,000 \$2,500 \$2.883 \$2,977 \$2,904 \$2,820 \$2,779 \$2,721 \$2,000 \$2,526 \$1,500 \$1,000 \$500 10'01 20 '01 30 '01 40 '01 10 '02 20'02 30'02 40 '02 10 '03 ... Cisco has made the best of it by stealing business from top rivals. Worldwide Layer 2 to Layer 7 LAN switch market share (in millions) 68.0% 68.0% 67.9% 67.2% 65.6% 64.8% 63.9% 63.2% 60% 10% 40 '01 10 '02 30 '02 10 '01 20 '01 30 '01 10 '03 20 '02 40 '02 SOURCE SYNERGY RESEARCH Cisco Nortel 3Com Enterasys

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Start-up launches secure storage gear

BY DENI CONNOR

The security of storage data distributed out of data centers has become paramount now that IP - with the advent of iSCSI and other IP storage technologies — is being used more often to transport storage information across networks.

Start-up iReady is one of the first vendors to offer storage adapters that combine IP Security (IPSec) authentication and encryption capability with the iSCSI transport protocol, while preserving hard-tomaintain performance at a price that is inexpensive enough to spur rapid deployment in IP storage networks.

The company announced last week three iSCSI host bus adapters: the IR-1011C Secure Storage Adapter, the IR-1011F Secure Storage Adapter for optical networks and the IR-1011LC iSCSI Storage Adapter. The IR-1011C and IR-1011F have implemented IPSec in hardware, making them less expensive and capable of performing at speeds that are compatible with Gigabit Ethernet.

Vendors and The Internet Engineering Task Force (IETF), which requires storage devices to have IPSec authentication and encryption capability enabled to be considered standards-compliant, were concerned how IPSec would be implemented.

Until recently, a debate raged within the IETF's IP Storage Working Group over how IPSec should be implemented, ultimately delaying the approval of the iSCSI specification. Vendors agreed that even though IPSec must be enabled for storage devices, users must be given the choice not to implement. That's because detractors say adding IPSec capability to storage traffic will compromise performance and add an unnecessary expense to the cost of an iSCSI device.

In iSCSI implementations, the IETF settled on three approaches: IPSec implemented in hardware with single-chip ASICs, in software alone, or deploy a VPN device in front of storage facilities.

But inspecting, decrypting and re-encrypting each packet for IPSec can slow data transfer on networks and imposes extra overhead for users who might not need security or already have encrypted VPNs.

Many vendors have decided to implement IPSec in software that resides next to the processor on the adapter. Other vendors, including Cisco, say IPSec can be implemented at a router.

"If customers are happy with [their network] security, they don't need IPSec for iSCSI," says Mark Bakke, technical lead for Cisco and a co-author of the iSCSI specification. "That, along with the hardware cost of implementing a high-performance IPSec solution, is a main reason Cisco is offering IPSec as a separate product, rather than integrating it with our storage products."

QLogic, one of the leaders in Fibre Channel and iSCSI adapters, with a 38% market share according to Gartner, implements IPSec on a separate processor from the iSCSI storage processor.

Integration of IPSec with the iSCSI ASIC is a method that iReady says gives users the wire-speed performance they expect of Gigabit Ethernet at prices that rival those of Adaptec, Intel, QLogic and Emulex.

"IReady is fundamentally changing the value curve and throwing in IPSec for an incremental amount," says Arun Taneja, senior analyst with the Taneja Group.

Unlike other iSCSI adapters, iReady adapters will transport iSCSI or Gigabit Ethernet traffic. They are expected to be available in the third quarter starting at \$200 for the IR-1011LC iSCSI Storage Adapter, \$300 for the copper IR-1011C Secure Storage Adapter, and \$400 for the fiber IR-1011F Secure Storage Adapter for optical networks. They will ship with Windows and Linux drivers.

Correction

■ In a sidebar ("The 'Frankenstein' spec") to our review of 802.11g-based wireless LAN products (May 12, page 46), we mistakenly assigned two frequencies to 802.11g. The frequency for 802.11g is 2.4GHz; the frequency for 802.11a is 5GHz.



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Cisco

continued from page 12

Cisco is also now the preferred provider for specific SBC managed service products, including IP telephony, IP VPNs, security, storage networking and WLANs.

Sprint has upgraded its SprintLink IP network to support a Cisco technology called Layer 2 Tunneling Protocol Version 3. The technology lets a carrier encapsulate Layer 2 traffic, such as frame relay, for transport over a Layer 3 network.

Despite the recent efforts and progress, Cisco still has a long way to go to buck up that revenue contribution from service providers to 40%, analysts say. Only 3% of carrier capital expenditures come to Cisco, a figure that does not inspire awe considering that there are only a handful of major suppliers to carriers, according to Joe McGarvey, senior analyst for carrier infrastructure at consulting firm Current Analysis.

"Cisco is far from a giant in the telecommunications space," McGarvey said in a recent report. "Cisco has not been able to capture a larger percentage of service provider

And though Cisco has made some progress in gaining the confidence of carriers after its initial missteps, this will be an ongoing challenge for the company rather than a one-time event.

"They had to basically apologize for their behavior," says Bill Lesieur, director of Technology Business Research. "And they still have an enterprise-oriented organization. How can they build similar relationships with service providers worldwide that Alcatel, Lucent and Nortel have now? That's the biggest challenge outside of the U.S."

Cisco's strategy for strengthening relations with carriers worldwide and increasing its share of carrier spending revolves around the deconstruction of barriers to circuit-to-packet infrastructure. They include capital and operational costs, such as the development of operational support systems and provisioning scripts for IP/ packet networks; and identifying profitable applications and services for these nets.

Once these barriers are broken down, Cisco's total available market and its share of carrier capital expenditures should increase, Acra says.

"This is the dominant logic in our strategy," he says.

King Cisco

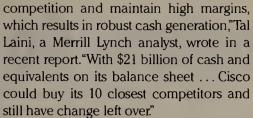
For now, it's good to be king.

No other network firm has fought off the bear-market woes better than Cisco, observers say.

"Cisco's core [enterprise] markets are flat, but profits need to keep going up quarter over quarter" to please Wall Street, Gartner's Fabbi says.

Some say this comes at the expense of customers.

"Cisco's market position helps the company to charge a premium over



Many of Cisco's competitors now lag way behind in terms of product breadth and support, or have suffered financial instability, or both. The result of this has been a relentless flight by customers to Cisco as an all-things-network vendor.

The average cost of a LAN port was \$75 last year. Cisco's average price was \$132, according to Synergy. And when compared with the average price of its competitors, the "Cisco tax" climbs even higher, to 70%.

"Enterprises at this point look at Cisco as a safe choice [and] don't care how much it costs," Fabbi says. "That just baffles me, considering the tough economic times. Major publicly traded companies are losing money in tough times across the globe. But when you look at network infrastructure, they're willing to just give their money to Cisco."

Others see danger in a Cisco-at-all-costs world.

"This is not a good thing," Dzubeck says. "It's not healthy. Just as it was a bad thing to have an all-IBM environment in the 1980s, the same applies for Cisco today; getting too tied into any one vendor isn't good."

"We run into very few situations where customers will just say, 'l'll go with Cisco,' and not worry about it," Cisco's Giancarlo says. He adds that Cisco products are packed with features to help companies reduce maintenance and management costs. And those features cost a little more.

"The bigger [payoff] for customers is if you put in capabilities that lower overall costs than strictly coming out with the lowest-priced product," Giancarlo says.

For many corporations, the value of an end-to-end Cisco network is more important than a perceived loss of pricing leverage or single-vendor dependence.

"I can understand the concern," Lehman Brothers' Beyman says, "but I have not yet seen a reason to be concerned," with relying on Cisco as the company's sole network provider.

In many ways, he adds, "it's great to have a single solutions provider; all the stuff works with each other, and you don't have to spend a lot of time and money stitching together other vendors' solutions."

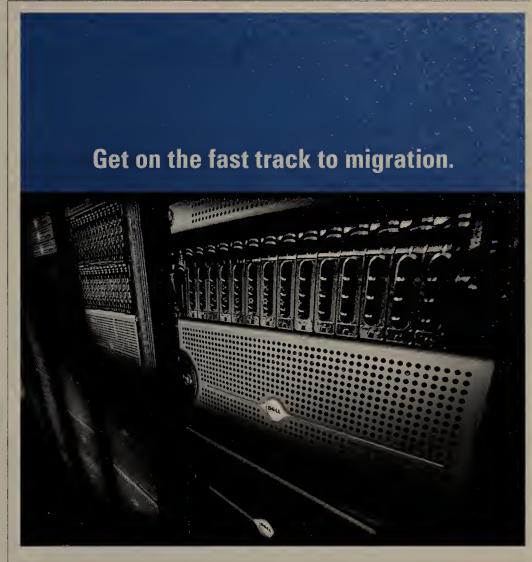
"Cisco's pricing is designed to obviously make a profit," says Eric Mucci, head of IT at Beiersdorf, a Norwalk, Conn., manufacture of skincare products. The higher price for Cisco gear, he says, "is justified by different people in different ways. Often, the 'suits' are happy paying the premium price for Cisco gear because it's a well-recognized brand that they can trust to run their business systems. From an IS point of view, the ROI [for Cisco gear] is easy to calcu-

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late after just one call to TAC," he says, referring to Cisco's Technical Assistance Center. Mucci says Cisco's support lets smaller firms deploy complicated technology with less personnel.

"Most IS departments are understaffed ours included - so providing that level of support to untrained administrators is worth the premium price," he says.

Next week: When you look beyond Cisco's status as Wall Street bellwether, there's the technology that makes the company successful. In our second installment we take a look at where Cisco's core technology — IOS — is headed. 🔳



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Mgmt. vendors tell users: Go configure

R BY DENISE DUBIE

Three vendors separately are rolling out new or improved products that address one of the most overlooked areas of network management: configuration.

AlterPoint, Gold Wire and Rendition Networks say their software or appliances will help companies automate parts of configuration management. Configuration is a key piece of FCAPS (Fault, Configuration, Accounting, Performance, Security), a widely used model in network management circles.

Configuration and/or change management entails capturing and keeping a database of all the settings from switches, routers, firewalls, load balancers and other network devices from multiple vendors, and then tracking

Facts and figures

These start-ups are looking to automate configuration and change management on enterprise networks.

Company/product	Description	Price
AlterPoint DeviceAuthority 1.1	Software that automates configuration and change management for network devices.	Roughly \$4,000 for 40 devices; \$8,000 for 100 devices.
Gold Wire Formulator 200; Formulator 200 HA	Appliances that provide single sign-on for network access and centralized configuration control for network gear.	Start at \$25,000 and \$100,000, respectively.
Rendition Networks TrueControl 2.0	Software that tracks and regulates configuration change management across network devices.	About \$30,000 for 75 managed nodes.

changes made to those devices.

Management vendors such as BMC Software, Computer Associates, HP and IBM Tivoli offer tools in the other FCAPS areas, but configuration management has been handled largely by equipment makers. For example, Cisco, Nortel

and Foundry Networks offer software to manage configuration on their specific gear, but multivendor tools haven't come out until recently.

Keith Logan says he didn't realize multivendor configuration management tools existed until AlterPoint approached him last fall. Logan, a senior network analyst for First American Flood Data Services in Austin, Texas, says AlterPoint's DeviceAuthority software, now on Version 1.1, interested him because of the challenge his staff faced checking configurations and tracking changes across 40 routers, switches, firewalls and other network devices.

"I have to say I was lax in that department, and I always knew it was a problem," he says. "There wasn't a simple way to manage configurations before, but this product definitely answered a specific problem."

Such tools can help IT staffs implement consistent configurations across devices. They also can be used to pinpoint the source of network problems more quickly. And with stored configurations, network managers can more quickly roll back devices to the last known accurate configuration.

The change management aspect of these products provides added security. Because the software and appliances require users to sign in with a secure password and track each change made to the configuration of a device, network managers can spot unauthorized access and potential security breaches.

Rendition, like AlterPoint and See Configure, page 63

Linux users deflect SCO's threats

■ BY NETWORK WORLD STAFF

Users were unfazed by the latest round of saber rattling in SCO Group's intellectual property war.

In a letter to commercial Linux users distributed last week and posted online, Darl McBride, president and CEO of SCO, warned users they could be liable for intellectual property violations that, it alleges, exist in Linux source code. (See the letter at www.nwfusion.com, DocFinder: 5943.) SCO's threat to commercial users comes after its March lawsuit against lBM, in which it charged that lBM misappropriated Unix code.

"We're deeply involved with Linux, and we're not turning back until the courts tell us to, which may take so much time that I'll be retired by then," says Joe Poole, technical director at Boscov's Department Stores in Reading, Pa.

"In the longer term it makes me less likely to purchase or recommend SCO products, since it appears SCO is not confident in its ability to thrive or even survive on the merits of its products and service alone," says lan Wilson, senior consultant for Infotop Limited, a software company in Bedfordshire, England.

"I am looking into native Linux development tools and database software so that our applications can be ported to Linux without any dependency on SCO compatibility features," Wilson says. "It concerns me that SCO is acting in this way. I hope that SCO does not succeed, that the matter is resolved quickly and that SCO [will] focus on producing and supporting good quality products."

An executive from a Massachusetts software company said: "It isn't going to keep us from using Linux. This move is a necessary one on [SCO's] part to show they really believe in their legal case, even if it means losing what little [Linux] business they had."

In last week's warning, SCO said Linux's source code contains illegal inclusions of SCO Unix intellectual property.

allis megal inclusions of SCO Unix intellectual property.
"SCO owns the Unix operating system, and as we've been

Letter To Linux Customers

SCOsource May 12, 2003

Dear commercial Linux user:

SCO holds the rights to the UNIX operating system software originally licensed by AT&T to approximately 6,000 companies and institutions worldwide (the "UNIX Licenses"). The vast majority of UNIX software used in enterprise applications today is a derivative work of the software originally distributed under our UNIX Licenses. Like you, we have an obligation to our shareholders to protect our intellectual property and other valuable rights.

In recent years, a UNIX-like operating system has emerged and has been distributed in the enterprise marketplace by various software vendors. This system is called Linux. We believe that Linux is, in material part, an unauthorized derivative of UNIX.

As you may know, the development process for Linux has differed substantially from the development process for other enterprise operating systems. C

SCO Group President and CEO Darl McBride warned 1,500 companies last week that they could be liable if using Linux.

researching our suit against IBM, we've been doing our due diligence," says Chris Sontag, senior vice president and general manager of SCOsource, a business division formed to manage SCO's Unix intellectual property. "We've started identifying more and more lines of code that are derived from our Unix System V source."

Sontag says that the Linux kernel and "extended areas of Linux distributions" contain copyright violations. But he declined to say where the alleged violations are. During the next few weeks, SCO will begin to present this evidence, under nondisclosure agreement, to a select group of industry analysts, Sontag said.

One person who is particularly eager to see SCO's evidence is Linux's creator, Linus Torvalds. "I'd personally love to hear what it is they consider infringing," he said in an e-mail interview. Torvalds said that because of the open

nature of the Linux development process, it is possible to track the origin of any section of the Linux kernel. "We've got all the history available somewhere, and it should be pretty easy to show when something was added and what the lineage was," he wrote.

Boscov's Poole says SCO's allegations are weak — built on fear, uncertainty and doubt. "If 100 programmers coded an identical function, I'll bet that several of those programs would be so similar you'd think they copied one another," he says.

Observers question whether SCO will be able to enforce any ownership rights it might have after contributing for years to the general public license (GPL)

"If the complainant does own any of the source code, I suspect that they have abrogated their right to such code by allowing it to remain in the public domain well over a decade while at the same time contributing to the open source code and further propagating the GPL, thus abdicating

any right to ownership they may have had at one time," one reader posted on Network World Fusion's site last week.

Beyond the legalese, SCO also announced last week it was abandoning its Linux business — which wasn't much of a moneymaker, according to the company. An SCO spokesman says that less than 2% of SCO's 2002 revenue came from Linux. The company says it has about 5,500 Linux customers.

IDG News Service correspondent Robert McMillan contributed to this story.



More online!

Read an interview with Chris Sontag, senior vice president and general manager of SCO's SCOsource division.

DocFinder: 5942



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SERVERS ■ OPERATING SYSTEMS

HUBS ■ ACCESS DEVICES ■ CLIENTS

■ Linux server vendor Pogo Linux this month unveiled what it says is one of the industry's first Linux Serial ATA workstation. The Velocity-DX contains new Velocity Seagate Barracuda Serial ATA hard drives that are coupled with Intel's dual Xeon processors to improve their reliability and performance. The hard drives support Intel's 3.06-GHz Xeon chips, which have a 533-MHz front side bus, the Intel E7505 chipset for dual Xeon workstations and four DIMM slots for up to 8G bytes of double data rate error correcting code registered memory. It is available now for \$2,000.

■ InfiniCon Systems says it is making it easier for customers to roll out server networks using InfiniBand, the next generation high-speed bus technology. The company last week introduced InfiniView Fabric Manager, a graphical-user-interface-based management application that can be embedded into its enterprise-class InfinIO 7000 switching system and into its entry-level InfinIO 2000 system. Fabric Manager automatically gives users a comprehensive view and control of all components within an InfiniBand fabric, says InfiniCon CEO Chuck Foley. Also last week, InfiniCon introduced InfiniServ 7000, a dual-port Host Channel Adapter that complies with PCI-X. The InfiniServ 7000 will make it easier to connect a variety of servers into an InfiniBand network, the company says.

■ Snap Appliance introduced the Snap Server 4500 last week, a 1Uhigh departmental network-attached storage appliance. The 4500 uses the Intel Pentium 4 processor and supports Active Directory, Unix Network Information Service, SNMP and network or local backup for management. The 4500 also uses a Linuxbased operating system and includes snapshot technology to provide consistent, point-in-time copies of data without administrator intervention. The Snap Server 4500 is offered in two capacities: 480G bytes for \$4,300 and 720G bytes for \$5,800.

HP rolls out powered LAN switches

Vendor targets advanced LAN features beyond simple wiring closet connectivity.

BY PHIL HOCHMUTH

HP last week announced a slew of products that provide corporate LAN users a host of advanced features - such as selfpowered Ethernet and robust security and convergence software.

The company announced the ProCurve 2650, 2626 and 5300xl switches, which can be used to provide power and data to IP telephones, wireless LAN (WLAN) access points or IP video cameras, via Category 5e or 6 cabling. This lets such devices be deployed more easily because standard AC outlets are not needed for power. And when connected to an uninterruptible power supply (UPS), the switches can provide emergency power to devices.

New to HP's ProCurve family of stackable LAN switches is 48-port ProCurve 2650 and 24-port ProCurve 2626. HP also has added a powered switch blade for its ProCurve 5300xl wiring closet chassis.

The new switches, which are scheduled to be available in the fall, are based on the



HP's ProCurve 5300xl switch features a power-over-Ethernet blade.

IEEE's 802.3af power-over-Ethernet (PoE)

The ProCurve stackables and the chassis-based PoE switches can provide up 7.5 watts of power to 803.3af-compliant devices, which is enough to power most standard PoE-capable WLAN access points and IP telephones, HP says. Fifteen watts of power per port can be delivered to devices that require more electricity if an external power system module is added to the switches, the company says.

The switches have been certified to

power IP phones from 3Com, Cisco and Mitel, and phones from Avaya, NEC and Nortel are being certified. PoE switches are also available from Avaya, 3Com, Cisco, Foundry Networks, NEC, Nortel and PowerDsine.

"HP needed to add [PoE]," to the Pro-Curve switch line, says Zeus Kerravala, an analyst with The Yankee Group. He says that PoE products bring HP up to speed with most of its competition, who have had such products out for a while.

But Kerravala questions how serious HP will get about its network business, given the small market share the company has in switching, and the relationship it has with market leader Cisco.

"Switching is a very crowded market," he says, "and HP Professional Services sells a lot of Cisco [equipment]." He adds that HP would be better off taking advantage of the volumes Cisco can move in network products by selling complementary products — such as servers, PCs and enterprise software — in conjunction with Cisco.

"Why would they put that relationship [with Cisco] at risk for a couple of percentage points of market share [in LAN equipment]?" he asks.

HP also announced new WLAN gear and plans to co-develop a Session Initiation Protocol (SIP)-based softphone client for HP iPaq PDAs for Mitel Networks IP PBXs. The new wireless gear could help make 802.11 networks more secure and better at handling applications. Meanwhile, HP is looking to further its partnership with Mitel by developing voice-over-IP applications that could help make IP telephony more mobile.

The company says it also is working with Mitel on software for iPaq PDAs to act as softphone clients for Mitel IP telephony networks. Mitel makes an IP phone — the 5230 — that has a cradle for inserting an iPaq, to let the user access and dial phone numbers from an iPaq address book application. The new software would let an iPaq, fitted with an 802.11b card and headset, act as a wireless extension for a Mitel IP 5230 desk phone. The softphone client will be based on SIP, which Mitel's 3300 IP PBX and phones used for call control and to support voice applications.

As reported last week in Network World (www.nwfusion.com, DocFinder: 5938),

See HP, page 20

Blue Titan updates router for Web services

BY JOHN FONTANA

Blue Titan Software this week will release a new version of its Web services router that will provide management capabilities to corporations adopting Web

The company's Network Director 2.0 is designed to sit next to traditional routers and handle application-level Web services traffic, which is message-intensive. The router is part of an emerging layer of services that Forrester Research is calling the XML network or the Simple Object Access Protocol (SOAP) network.

The point is that the XML network sits in the IP network and enables you to build out these Web services applications," says Ted Schadler, an analyst with Forrester. "You need a router to move the messages. While there is still some mystery in Web services, service-oriented architectures and distributed computing, at the end of the day what you have are

network applications."

Schadler says corporations will need a new network layer that offers those applications such services as transaction control, security, service-level agreements, application load balancing and nonrepudiation.

Companies such as AmberPoint, Actional, Confluent Software, Digital Evolution, Infravio and Talking Blocks are some of the start-ups building tools for

At the core of Network Director is a policy-enforcement engine called Control Points, which runs on BEA Systems' WebLogic application server and sits next to traditional routers and switches. The Blue Titan Engine distributes policies, such as an uptime requirement, to the Control Points, and the Blue Titan Manager writes the policies.

In Version 2.0, Blue Titan has added what it calls Fabric Services, which make all the

See Blue Titan, page 20

CATALYST 6500.



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WIRED WINDOWS Dave Kearns



an Bricklin fostered the PC revolution when he helped create VisiCalc for the Apple almost 25 years ago. It and its successors, Lotus 1-2-3 and Excel, were the original "killer app" for PCs.

Bricklin went on from that success to give us the granddaddy of presentation programs in Dan Bricklin's Demo - used to produce demonstrations, presentations, simulations and prototypes of computer programs. It's still being sold. While not a killer app, it was a neat idea.

Now Bricklin has a new idea that involves small business and the directory arena, and he might just be on to something yet

Small & Medium Business Metadata

The next 'killer app'?

(SMBmeta) is an XML specification for identification and location information for small, primarily bricks-and-mortar businesses. Third-party information aggregators could harvest the data with robots and build business directories that let consumers easily find the goods and services they seek. See http://smbmeta.org for details on how it will/should work.

Infrastructure

Burton Group's Jamie Lewis (www.nw fusion.com, DocFinder: 5928) says he thinks this is a better method of finding businesses and services than the IBM/Microsoft Universal Description, Discovery and Integration technology (http://uddi.org), which up to now hasn't taken off and probably never will. Lewis calls the concept behind SMBmeta a "loosely coupled, self-organizing directory," and offers the possibility of joining the SMBmeta concept with peer-to-peer tech-

In many ways, the concept encompasses what I've called the "personal directory"

(see DocFinder: 5929) and is similar to the ".DIR" top-level domain Novell proposed a few years ago (DocFinder: 5930).

In fact, the .DIR specification is remarkably similar to the SMBmeta specification in scope and direction. But we'll need to encompass more than just small to midsize businesses for this to ever graduate from being a simple niche product. There are some problems that need to be addressed, such as scaling. One smbmeta.xlm file per Web domain would have to include a huge number of lines for the locations of every McDonald's restaurant, for example.

A way also will need to be found to extend this concept to individuals and a way to simply federate the data (on a dynamic, ad hoc basis) and aggregate it. I'll explore these concepts more in the Network World "Identity Management" newsletter over the coming weeks (sign up for the newsletter at DocFinder: 5932).

Just as VisiCalc begat Excel and "Demo"

begat PowerPoint and Flash, SMBmeta could be the prototype for the next

Kearns, a former network administrator, is a freelance writer and consultant in Silicon Valley. He can be reached at wired@vquill.com.

Tip of the Week

VisiCalc was released for the IBM PC in 1981 and it still runs on today's machines! Head over to DocFinder: 5931, where you can download a copy and experience what was the cutting edge of PC computing some 20 years ago.

Netilla upgrades SSL-based remote-access gear

■ BY TIM GREENE

SOMERSET, N.J. - Netilla is expanding capabilities of its Secure Sockets Layer remoteaccess gear to support Webbased and fat-client applications, making the gear better-suited to a broad spectrum of corporate remote-access needs.

With Release 4 of its Netilla Service Platform (NSP) software, the company is adding to existing support for Microsoft Terminal Services, Unix, Linux and mainframe applications.

Netilla's NSP devices act as a proxy between remote users connecting via the Internet and corporate servers hosting applications they want to access. Remote users log on to the machines via Web browsers and establish an SSL session with the NSP. The NSP then acts as a go-

between with the host server and the remote machine.

With the software upgrade, customers can access Web applications from any PC with a browser that supports SSL. Netilla's previous support did not include Webbased applications and required a thin client on the remote

With the addition of an HTTP proxy in Release 4, users can connect to Web applications. And a new Universal Windows Adapter client tunnels traffic from client software such as Lotus Notes that reside on the remote PCs to the NSP box via SSL streams, says Reggie Best, Netilla's CEO.

The Web capability will let Deborah Heart and Lung hospital in Browns Mills, N.J., grant remote user Web access to Microsoft Outlook, among other



Netilla's NSP G-Class remote-access SSL server costs \$65,000 and supports 1,000 thin client sessions.

applications, says Gerard Williams, director of IS for the hospital. Before the release, the hospital used Netilla gear but was limited to using it for a Windows-Terminal-Server-supported application called Meditech that handles medical and billing records.

The advantage of browser-

based remote access is that remote computers need little or no support from Deborah's limited IT staff. "We couldn't get to all of them," Williams says. Before buying an earlier version of the Netilla platform, the hospital relied on phone calls and faxes to complete transactions.

Some of the new Netilla features are similar to those that vendors such as Aventail and Neoteris offer, says Michael Suby, an analyst with Stratecast Partners.

Netilla also is introducing a new hardware platform called NSP G-Class, created for large companies that is capable of supporting up to 1,000 thinclient sessions and 2.500 Web access or fat-client sessions. The box costs \$65,000. This week Netilla will announce \$6 million in additional funding from its investors, bringing the total to \$17 million.

Blue Titan

continued from page 17

functions of the router available as individual Web services. That means the Fabric Services can be integrated with management infrastructures such as HP's OpenView management platform to integrate data such as uptime for a Web services application.

"Because of where we sit we have an incredible amount of data, and we can share that with other systems on the network," says Sam Boonin, vice president of marketing for Blue Titan. "A router can handle any IP traffic. We work in a similar way.You don't put management services on the application; you put management on the network and use it to handle all the SOAP traffic. We enforce run-time policies for such things as access control, [SLAs], routing and load balancing."

Blue Titan also has added

event capabilities called Active Event Messaging and Adaptive Policy Execution, which allows for real-time changes to policies. It also supports the emerging security standard WS-Security and two standard proposals, WS-Policy and WS-Reliable Messaging.

Network Director \$150,000, which includes four Control Points. The software also run The software runs on rLinux and Sun Solaris, in addition to BEA WebLogic. ■

continued from page 17

HP also released its ProCurve 700 series of WLAN switches. The 700 series family includes:

- 720wl Access Controller, a switch for connecting 802.11 access and securing WLAN client connections
- 740wl Access Control Server, a management appliance for configuring WLAN access rights and policies
- 760wl, which combines the 720wl and 740wl features into one box for smaller networks (up to 400 clients).

The 720wl switches come with

four ports for connecting wireless access points and can be expanded to support eight access points.

The switches support Triple-DES, 802.1x and Wireless Encryption Protocol for encrypting radio traffic. The boxes also can let secured WLAN clients roam among access points while maintaining IP address and virtual LAN settings. WLAN users say loss of these settings can occur while roaming between access points, and they can cause application problems.

The 700 series of wireless gear will be available in June.

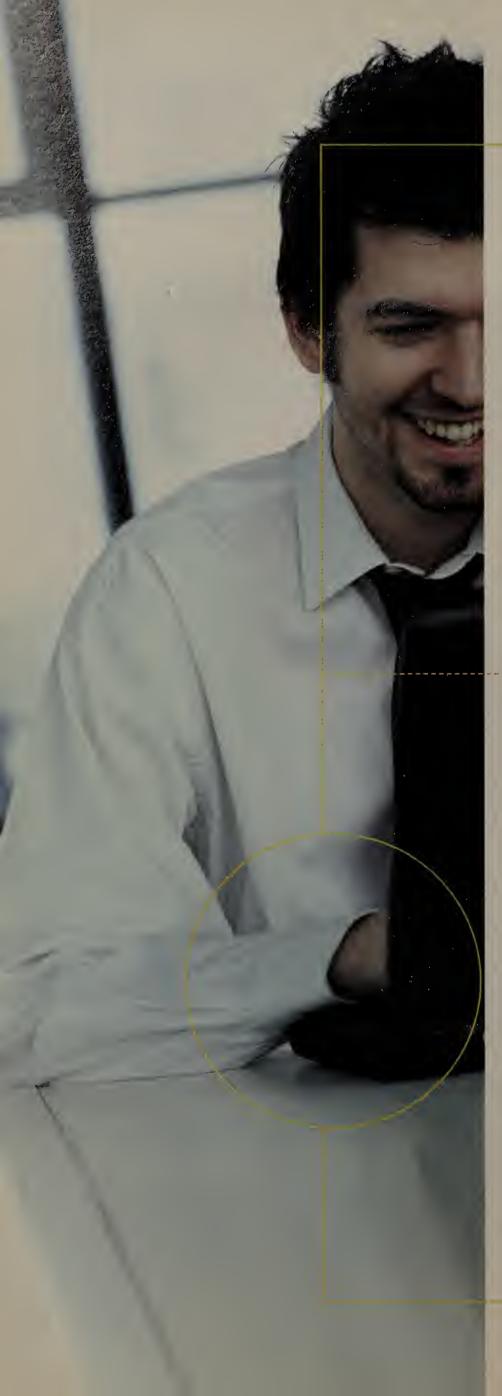
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Site: Lessons from leading users

Johnson & Johnson solidifies security

BY ELLEN MESSMER

Information security managers at healthcare giant Johnson & Johnson, with more than \$36 billion in revenue each year and 108,000 employees working in more than 200 separate businesses, have begun the large-scale rollout of digital certificates that eventually will replace passwords at the

■ Sendmail last week shipped a new mail server aimed at corporations looking to provide low-cost email access to workers who don't have a dedicated computer or even a desk. The so-called deskless worker is the target for the Workforce Mail server, a Linux-based software package that integrates Sendmail's e-mail software, HP's ProLiant servers and Intel's Centrino wireless platform. Workforce Mail is based on Sendmail's MailCenter software. It includes content management features such as antispam and antivirus filters and a policy engine to manage the exchange of corporate data. Users can access the server with a variety of devices, including those based on Intel's Centrino wireless technology. For 10,000 users the price is \$69 per user, per year, including server software with antivirus and antispam capabilities, hardware and maintenance.

■ A Swedish mobile messaging company's software will be offered for integration into Microsoft Office 2003, allowing users to send Short Message Service messages from Microsoft Outlook. The SMS Executive product from General Wireless will be included in Microsoft Office Marketplace, a listing of products and services that work with or complement Office. Microsoft plans to release Office 2003 in the third quarter.

J&J is installing a directory-enabled public-key infrastructure with digital certificates as the basis for security in authentication of identity and encryption of documents. The change that required J&J to retrofit many of its business applications to make use of PKI.

Digital certificates are electronic credentials that link a user's identity with a public-private encryption key pair that facilitates "signing" of documents by the sender, prevents document tampering and ensures confidentiality through encryption.

But it's been a slow process, requiring significant changes that include installing an enterprise directory and customizing existing applications from Oracle, SAP and Siebel Systems to support digital certificates.

"We're now in production deployment of 5,000 certificates, and we expect to have issued 10,000 by year-end," Rich Guida, J&J information security manager, said during a presentation at the recent RSA Conference in San Francisco. Guida and Gary Secrest, also a J&J information security manager, described the challenges the corporation has faced to do this.

The basic equipment for any PKI rollout includes a certificate authority server that lets supervisors issue digital certificates to those they supervise and a revocation authority server to revoke the certificates. J&J has deployed this equipment from e-Certify for this purpose.

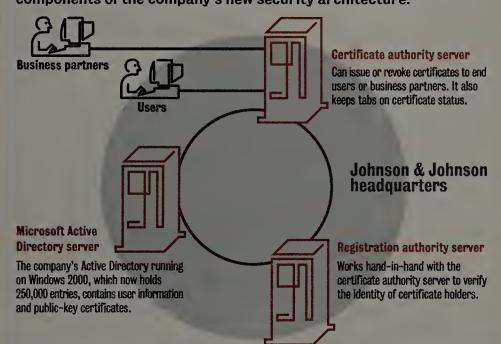
In the long run, digital certificates at J&J are intended to replace passwords because it can cost as much as \$37 per year, per employee, to support password changes and reset requests. But it's not clear that certificates will be more economical for J&J, which spends \$1.4 billion on information management each year. The driving force is that PKI is hands-down far better security than passwords, Secrest said.

The ability to sign and encrypt mail and documents will make it easier to satisfy security requirements from federal regulators such as the Food and Drug Administration and Health & Human Services, he added.

But rolling out PKI on an enterprisewide scale is fraught with obstacles, the chief one being that many of the commercial applications used at J&J, including those from Documentum, J.D. Edwards, Oracle,

Getting certified

Johnson & Johnson is phasing out passwords in favor of digital certificates for identity management. Here's a look at the key components of the company's new security architecture.



SAP and Siebel, can't make use of digital certificates out of the box and have to be retrofitted to use them.

"We spend a lot of time working to enable the applications for PKI," Guida said. "And we spend a lot of time working with vendors to do this."

To retrofit these business applications, J&J has used RSA Security's BSAFE tool kit, which has been tested and evaluated under the National Institute of Standards and Technology FIPS certification program. J&J's security managers said they prefer to use independently evaluated products.

In contrast to many of the enterprise CRM and accounting applications, Microsoft's out-of-the-box applications are often PKIready, Guida said.

"Outlook 2000, Microsoft Office XP and Internet Explorer are Windows applications that are very PKI-aware today," Guida

Secrest said the PKI deployment has led J&J's IT department to instigate other changes as well, such as centralizing information about users in an online enterprise directory. "We have 200 human resources systems, and we had no enterprise directory," Secrest said.

The enterprise directory now in place holds the information about users and the public-key certificates that can be accessed to send a signed message to the intended recipient. J&J selected Microsoft's Active Directory running on Windows 2000, which now holds 250,000 entries. With J&J on a buying spree of hundreds of much-smaller companies for more than a year, the IT departments have gained practice in quickly setting up feeds to the main Enterprise Directory.

"The employee has to be in the Enterprise Directory, and authorized by human resources, to request a certificate," Guida said.

J&J intends to issue digital certificates for about 150,000 individuals, including business partners that use the J&J corporate network regularly. One challenge in operating a PKI is learning how to quickly aggregate lists of revoked certificates — which are known as the certificate revocation lists to enforce security policy.

J&J maintains its own encryption root key — a core part of the PKI technology for issuing certificates — and to make it a little harder to discover this secret key keeps the root key in three sections stored at three locations.



5/19/03

I expect it would get Bill's attention

ere it goes again. Microsoft made the front pages recently for yet another security bug, this time in its Passport authentication service.

What made this more than your average

today's-bug story was the too-hyped observation that Microsoft could be assessed a fine of \$11,000 per Passport account. With 200 million or so Passport accounts, not a small number of which were created just to

enable one or another Microsoft software product, the fine would amount to \$2.2 trillion. Even Bill would notice such a hit. But the prospect of a significant reduction in the national debt is not the subject of this column; common sense is.

The idea of hitting Microsoft upside the head with a fine of almost eight times its market cap reminds me of what a cab driver in Singapore told me about driver's education there. He said the fines for traffic violations were not high enough to get the attention of rich folk, so caning was more effective at sending a message. No one could say this fine would not get the attention of whatever remained of Microsoft. But enough silliness — as CNN noted, "any fine would be significantly lower."

To put things in perspective, it has been said that Windows has somewhere between 30 million and 50 million lines of code. To only have a bug a week with a code base of that size is doing rather well. But sometimes the bug is not one of bad code, but of bad design, as seems to be the situation in this latest case.

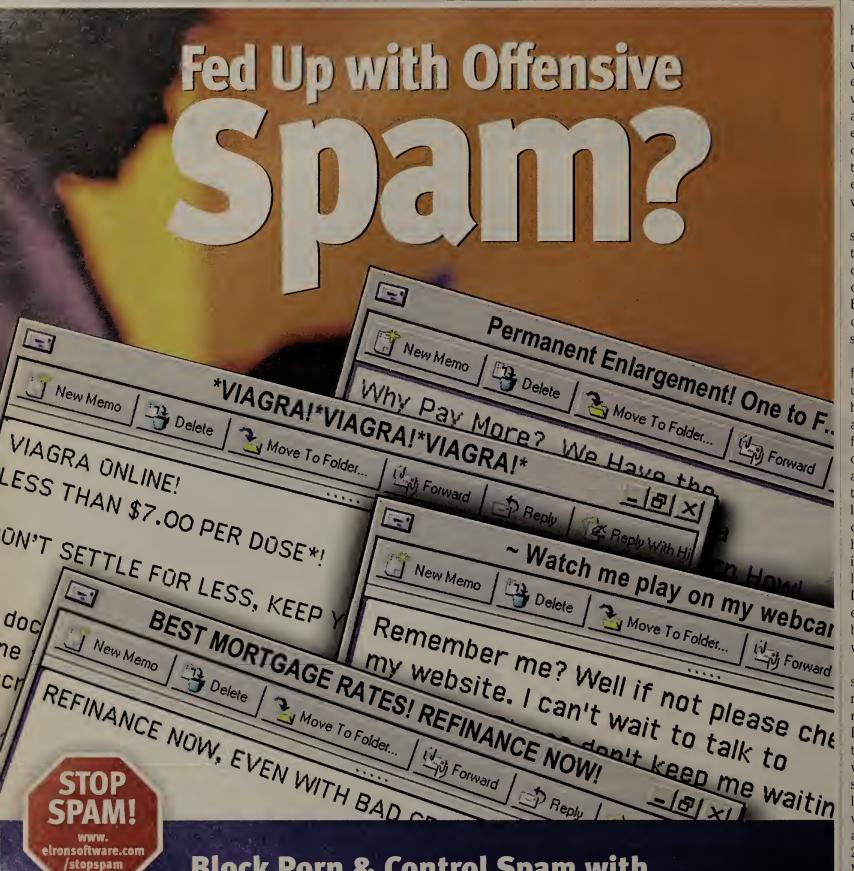
The press reports said the person who found the problem did so with a few minutes of poking around after someone hacked his Passport account. It seems that a feature designed to let a user recover from a forgotten password let someone other than the user take over the account and have access to whatever data was there. After figuring out the design problem, the bug discoverer said he tried to contact Microsoft a number of times. When he didn't get any response, he posted the information on the FullDisclosure security list on May 7 (see www.nwfusion.com, DocFinder: 5933). Microsoft blocked the exploit soon after. The design bug seems to be one that a first-year security apprentice would have been demoted over.

The underlying problem is not that Microsoft isn't perfect, nor is it that Microsoft might not have responded to warnings it received. The underlying problem is that for Passport to play the core-of-the-world role that Microsoft wants it to play the company would have to be perfect and be able to respond before it received notice of a problem. Remember, Microsoft wants this service to have important information about as many Internet users as it can. More than 200 million already; many times that in Microsoft's dreams.

Common sense says that putting so much sensitive information in one place is a very, very bad idea. It becomes a major target of attention and when (not if) compromised, the damage can be great. Hackers, spies or disgruntled employees, someone will get into the playpen every now and then. What will be the damage next time?

Disclaimer: Harvard's sense, by definition, is not common. But the above observation is my own.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.



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Special Focus corporate financing: IT accountability

Legislation refocuses corp. reporting systems

BY ANN BEDNARZ

t's said that politics makes for strange bedfellows. New legislation designed to place tighter controls on corporate accountability is doing just that.

IT and finance departments — which historically have not always seen eye-to-eye on technology expenditures — are working closer than ever to review and modernize companies' financial reporting systems to comply with regulations set out in the Sarbanes-Oxley Act of 2002.

Passed by Congress last July following a season of highprofile accounting scandals, the Sarbanes-Oxley Act requires publicly traded companies to provide more timely, accurate and detailed financial reports.

One of the first provisions of the new legislation to take effect requires CEOs and CFOs to certify under oath the accuracy of their corporations' financial filings. Other provisions relate to changes in Securities and Exchange Commission (SEC) filing schedules. The deadline for filing an annual report is shrinking from 90 days to 75 days this year and 60 days next year, for example. Similarly, the deadline for filing quarterly reports is shrinking from 45 days to 40 days this year and 35 days next year.

As public companies scramble to understand the Sarbanes-Oxley Act, IT departments increasingly are being called into the fray to assess how compliance would affect firms' IT systems.

Mike Gabaly, director of cash forecasting and financial performance management at Lockheed Martin in Bethesda, Md., says Sarbanes-Oxley has raised concern at his company. But Gabaly is confident that plans to consolidate Lockheed Martin's myriad financial planning, accounting and corporate tax systems with a single soft-

> **fif** I don't protect the assets our shareholders. 77

Irving Tyler

of my company, I'm hurting

Vice President and CIO, Quaker Chemical

ware package from Longview Solutions will cover most of the legislation's current requirements."We're pretty well positioned to support all that certification due to the fact that we're consolidating all of our information into one application," he says.

While companies might have met the act's initial requirements with little disruption to existing financial reporting processes, pending provisions have broader IT implications that could require a company to overhaul or upgrade its systems, says ARM Research. The research firm cites sections 404 and 409 of the new legislation as partic-

Section 404 requires companies to certify their financial reporting processes and the structure of their internal audit control. Companies need to document and attest not only their final numbers, but also the processes by

which they arrived at those numbers.

This provision has elevated the issue of internal controls to the CEO and board level, requiring senior management to pay greater attention to issues such as confiden-

tiality, systems integrity, business continuity and disaster recovery, says Al Decker, executive director for security and privacy services at Electronic Data Systems.

"Most people don't get up in the morning thinking about internal controls," Decker says. "What Sarbanes-Oxley has done is taken what may have been relegated to the IT department and elevated it to a significant business issue."

Section 404 is of most concern to customers, agrees Susan Foley Kane, vice president of product marketing for PeopleSoft's financial management group. "Every CFO, every financial organization that

we get into our customer-visit center right now, this is what they're struggling with," Kane says.

Under Section 409, companies must disclose material events that affect the business within 48 hours of when they occur. This includes not only financial events, but also operational events, such as if an airline loses its best fuel supplier. Under the act, companies will be required to report the event and its financial consequences.

These rules are more cumbersome than some earlier provisions, observers say. But just how much more cumbersome is debatable. Obscuring the issue is that the SEC

> is still fleshing out the details of the law. Exactly what defines a material event is still open to interpretation, for example.

AMR suggests Sarbanes-Oxley has the potential to be bigger than Y2K in how it affects companies. The firm predicts the Fortune 1000 will spend more than \$2.5 billion in investigation and initial compliance-related work.

However, more conservative industry watchers say many public companies are in good shape to comply with more stringent corporate report-

"A lot of the strong considerations that have been in place in many organizations for internal controls have now been brought into law,"

Decker says. "The good news is that probably 80% of companies in the country have a reasonable set of inter-

Companies might have to make minor modifications to internal processes, but most will be able to avoid making wholesale changes to their systems, Decker says.

In any case, Sarbanes-Oxley is weighing on users' minds. Customers are calling and asking about corporate governance issues daily, says Phil Strand, global strategist and program director for the financial management division of software maker SAS Institute.

Experts say a lot of companies haphazardly handle financial reporting — particularly if a company has grown by mergers and acquisitions and inherited a sea of disparate systems. A company might capture transactional data in multiple ERP systems, extract it, reformat it, and

put it into spreadsheets for manipulation. It can be tough to trust the information considering the route it took to get there.

"A lot of people are still using spreadsheets to do report-

ing," Kane says. "One algorithm that's wrong in a spreadsheet could mean that, unknowingly, a CFO is signing off on something that is not correct."

Some view the new legislation as an opportunity to kick-start initiatives that have taken a back seat to other IT spending priorities.

"Companies philosophically have always wanted to do this," says Dave Murray, CFO of software maker Longview Solutions."A lot of what companies are doing now through sweat capital and spreadsheets makes people a little uncomfortable." Sarbanes-Oxley is the impetus to put an integrated solu-

tion in place, he says. "It has put a fear into finance that really wasn't there before," Murray says.

That fear has created an opportunity for ERP vendors and best-of-breed analytics vendors. Oracle, PeopleSoft and SAP have announced business intelligence and business performance management products in the past several months. In addition, dedicated business intelligence software makers such as Cartesis, Cognos, Comshare, Hyperion, Longview and SAS offer performance management suites that tackle financial reporting, forecasting, consolidation and analysis.

Project validation

Sarbanes-Oxley wasn't the impetus of Quaker Chemical's financial systems overhaul, but it will be a good test of its effectiveness.

"When Sarbanes-Oxley came along, we found ourselves generally well prepared to comply because we had started so many actions in advance," says Irving Tyler, vice president and ClO at the specialty chemical products manufacturer.

Quaker Chemical is in the middle of a multiyear financial-systems makeover that includes designing and adopting global financial processes; extending data warehousing and business analytics software from SAS to its global operating companies; and consolidating 14 transaction systems into a single instance of J.D. Edwards' ERP software.

When it's completed, the Conshohocken, Pa., company's new setup will make it easier to control access to information — an issue that is critical to complying with the act. "If I don't protect the assets of my company, I'm hurting our shareholders," Tyler says.

While not prescribed specifically in Sarbanes-Oxley, protecting intellectual property and information assets is an implied requirement. Failing to do so and suffering a security breach could constitute a material event,

Irving's advice to other companies is to not look at Sarbanes-Oxley as purely a compliance issue, but rather to recognize that its provisions are rooted in good business practices.



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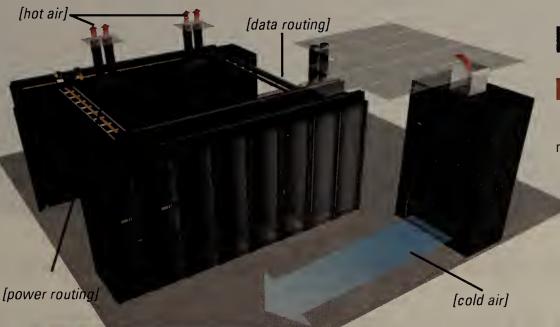
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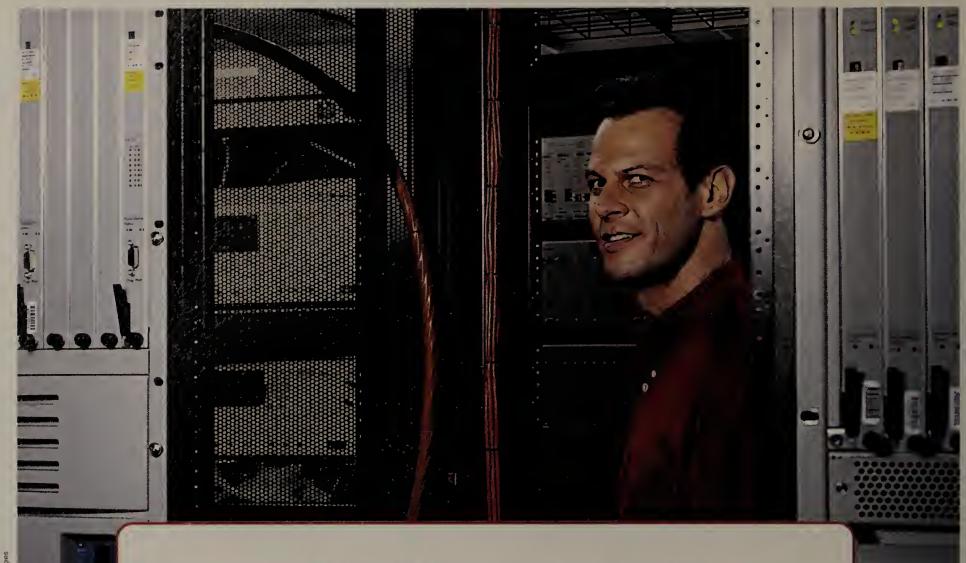
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Content delivery nets branch out

Companies stress offerings that go beyond distributing static content.

■ BY JENNIFER MEARS

Phonetrade.com, a business-to-business trading exchange and catalog site for mobile phones and accessories, was looking to expand its online presence. The company, owned by Global Business Link in Gothenburg, Sweden, wanted to outsource its e-commerce efforts, everything from software downloads and security to transaction processing and hosting.

It finally settled on a provider that might come as a surprise to some network executives: content delivery network (CDN) specialist Mirror Image.

"We were looking for an all-inclusive outsourced e-commerce solution that could manage the back end of storefront transactions and hosting," says Martin Eriksson, founder of GBL.

Those aren't requirements that typically would send a company in search of a CDN

vendor, but along with the rest of the market, Mirror Image is enhancing its services to provide more than simple static content delivery. Earlier this year, the vendor introduced RapidBuy, an offering that combines the e-commerce services Mirror Image acquired through Buyonet with its traditional content delivery capabilities. While Eriksson wouldn't say what other companies he looked at, the new service puts Mirror Image into competition with companies such as Digital River that provide comprehensive e-commerce services.

"I wasn't that familiar with the benefits that CDNs could bring, but now that I've been exposed to what Mirror Image can offer, I'm an advocate of the importance of fast content delivery," Eriksson says. "The coupling of CDN technology and an easyto-implement e-commerce storefront allows us to quickly expand and grow our catalog site without sacrificing the quality of our online transactions."

It's the kind of thinking CDN companies are hopeful they'll hear more of as they turn overlay networks originally designed to simply deliver static content into vehicles for improving the performance of all sorts of online initiatives.

"It's amazing how many people I talk to

who think of Akamai as just caching static content at the edge of the network," says Bobby Blumofe, vice president of strategy at Akamai. "We've had a whole bunch of capabilities that go beyond caching static content for quite a while."

And other CDN providers are following suit. Business customers can expect CDN companies to beef up security, add support for application processing, link into behind-the-firewall acceleration systems and boost storage capabilities at the edge. Observers say those services would help drive enterprise network business to CDN vendors that have faced tough times since the dot-com implosion that stripped them of their primary customer base.

Akamai continues to be saddled with debt and has yet to post a profit, but revenue has been improving.

At the same time, Speedera, which offers more basic services at lower prices than Akamai, announced last year it had become operating-income positive and was debt free. Cable & Wireless says its CDN business, which it acquired from Digital Island in 2001, also has become profitable.

"But there's no magic feather," says Greg Howard, principal analyst and founder of the HTRC Group."There are services these

CDN-plus

Here's a sampling of what CDN providers have in store:

- More control: CDN companies such as Mirror Image and Speedera plan to enhance user interfaces so that even nontechies can manage content sent to the edge.
- Application processing: Akamai and Mirror Image are focusing on speeding up application transaction times.
- Tighter security: Providers are looking to make content even more secure and are talking about things such as digital rights
- Managed enterprise CDNs: Cable & Wireless says it plans to manage CDNs behind the firewall, creating a private extension to its public CDN.
- Broader storage capabilities: Speedera, for example, plans to introduce an intelligent storage management service that will position hot content where it's in highest demand.

CDNs can offer, and they're beginning to." Already this year, the handful of CDN companies left in the market are offering a

See CDN, page 32

■ Sprint President and CEO Gary Forsee was named chairman of the board at the carrier last week. Although Forsee joined Sprint from BellSouth in March as the company's new leader, former president and CEO William Esrey still held the title of chairman during this transition period. Esrey officially retired last week after his 23-year career with Sprint. The carrier started its search for a new CEO earlier this year after Esrey and COO Ron LeMay came under scrutiny by the IRS for use of specific tax shelters that saved the two executives millions of dollars.

■ Tellabs last week announced it has acquired Multi-protocol Label Switching edge switch maker Vivace Networks for \$135 million in cash and stock. The deal marks Tellabs' entry into the edge router market. Vivace's boxes are designed as IP serviceenablement systems that retain carrier investments in frame relay and ATM infrastructures.

Laurel routes broadband support to edge

■ BY JIM DUFFY

PITTSBURGH — Laurel Networks last week unveiled software for its edge router that lets carriers deploy the device as a broadband service delivery system.

The company's Broadband Remote Access Server (BRAS) software for its ST200 router will pit Laurel against entrenched broadband aggregation router vendors such as Redback Networks and Juniper Networks, which acquired Redback competitor Unisphere Networks a year ago. Although Laurel is a late entrant to this market, analysts say there is demand for a high-performance BRAS system such as the one Laurel is proposing.

Currently, ST200 is used mainly for aggregating frame, ATM, IP and other traffic types for passage across carrier core

"They already had all the ports, they already had all of the hardware," says Dave

FORE!

Four of Laurel's six top managers. are from FORE Systems, the enterprise ATM switch vendor acquired by GEC in 1999.

Passmore, research director at Burton Group, "Most of the BRAS platforms that are out there, like the initial Redback boxes, were really based on PC chassis. They don't scale to the kinds of bandwidth requirements in places like Korea."

The BRAS software features a capability Laurel calls Service Separation and Blending (SSB). SSB delivers high bandwidth per subscriber, advanced quality of service (QoS), and integrated routing and switching required for multimedia broadband service.

SSB blends packets from multiple services downstream over one broadband customer connection, while switching and routing separate upstream traffic to different content or service providers, Laurel says. It does this through per-service queuing and shaping, and intelligent separation of packet streams across multiple content networks, the company says.

ST200 supports more than 100,000 broadband sessions with classification, filtering, IP VPNs, multicast and QoS features enabled, Laurel says. The router supports more than 500 multicast channels.

Integrated ST200 per-subscriber bandwidth control eliminates the need for external bandwidth managers, such as ATM switches; and the ST200 is the first broadband remote-access server with OC-48 and OC-192 uplinks, the firm says.

The ST200 BRAS software is in trials with many service providers, and general availability is planned for the third quarter.

EYE ON THE CARRIERS Johna Till Johnson



of extranets and extranet service providers, starting back when "extranet" was the buzzword du jour and Britney Spears was the latest cultural sensation. Now that extranets seem to carry the same cultural cachet as "Baby One More Time," it might be a good idea to take another look at how they are evolving.

Some background: In 1999, I made a handful of predictions about the evolution of WAN services, including frame relay, ATM and IP services. Here's the short version: Frame and ATM would hold steady through about 2002-2003, at which

The extranet emerges . . . right on cue

point IP services would begin to emerge as the dominant next-generation enterprise network. The predominant driver for IP services? Extranets.

I even had a slide that conveyed these trends graphically, with a horizontal timeline showing frame relay and ATM deployments diminishing over time while IP services deployments grew dramatically. The intersection of the curves occurred around May 2003, marking an industry inflection point labeled "Extranets happen here."

Was I right? Preliminary signs say yes. Companies are deploying IP VPNs in record numbers — virtually every organization I've spoken with has deployed, or is considering, an IP VPN. A big driver is the ability to gain effective access to external sites and organizations. As an IT executive at a large information-services firm told me recently, "More than 50% of the traffic

on our WAN is external. So why have a WAN at all?"

Moreover, "resource externalization" is huge and getting bigger. In a recent Nemertes security survey, every company we spoke with reported that it made at least one type of resource (files, data, applications) available to outsiders. "You have to assume there's no such thing as an internal application anymore," one IT executive says.

So what are the effects for IT executives? For starters, companies need to considerably enhance their security models. The first step in securing most organizations is hardening the perimeter: securely locking down the firewalls, VPNs and intrusion detection/prevention systems to ensure that bad guys stay off the network.

However, if the goal is to open up the organization and its associated resources to third parties, the notion of perimeter hardening begins to lose its potency. What's needed instead is a more sophisticated security architecture that provides graduated access to resources permissions that are based on a user's identity. Many organizations are beginning to put into place a three-tiered security model that addresses such issues.

IT executives also should also take a long look at some of the IP VPN services that are emerging, as I discussed in my last column. Many include extranet capabilities already, or can be customized to provide secure third-party access. The upshot? Like a certain bellybutton-baring diva, extranets are, "Stronger than yesterday — now it's nothing but my way."

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

CDN

continued from page 31

number of new services. The point is that the same technology that made the Internet friendlier for static Web site content can do the same for more critical business content and applications, analysts say.

For example, Mirror Image has its e-commerce offering and recently unveiled a dynamic content service. Speedera introduced a new security service to let Web site administrators control who can upload content to the CDN; and Akamai, in partnership with IBM, rolled out its first service to support application processing at the edge.

More services are coming. Mirror Image talks about supporting digital-rights management and live video. Speedera says better monitoring and reporting services will be offered to make it easier to track who's accessing

content and from where, and also plans to boost its storage capabilities with an intelligent storage management service. Akamai says it will continue to focus on pushing Web applications out to its distributed network.

C&W, meanwhile, is taking advantage of its depth as a network and hosting provider and is making a multimillion-dollar investment to expand the capacity of its CDN as traffic on that network increases, thanks in large part to

the tight integration with C&W's other offerings.

That integration is what attracted Major League Baseball to C&W's CDN services, says Joe Choti, MLB.com's CTO.

"It's nice that I can ride in a [C&W] data center, and then out the back door of that data center I get right on the [C&W] CDN," he says. "When there are issues, I've got one point of contact I can call."

One point of contact was also important for GBL's Eriksson.

"It becomes costly when you have to outsource different technical components of the store-front to different vendors," Eriksson says.

The bottom line for both Choti and Eriksson, though, was that the CDN provider could handle spikes in traffic, eliminating the need to have idle hardware and bandwidth standing by in case of spikes in traffic. It's what CDNs have been all about from the beginning.



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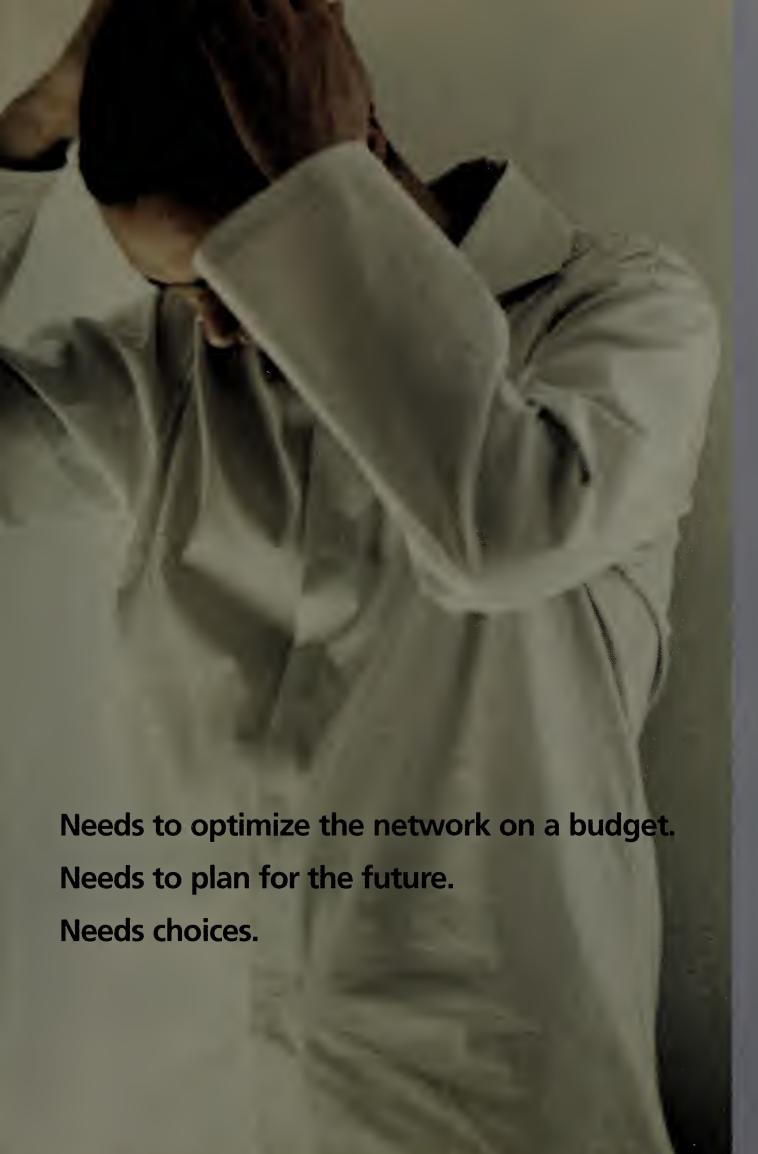
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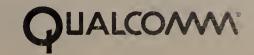




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Proxy system streamlines Web requests

■ BY STEVE SHAH

Proxies have been longtime friends and foes of Web servers. On one hand, proxies offer protection, caching, Secure Sockets Layer acceleration, compression and authentication. The downside, though, is that many Web sites and applications don't work with proxies.

Web-resource mapping, a new technology embedded in SSL VPN proxies, dynamically rewrites URLs so IT managers don't need to alter applications to work outside their firewalls.

The proxy problem

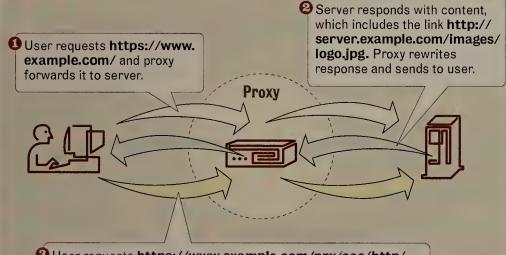
When a Web site sends a page to a user, it typically includes a variety of embedded references to other objects on the Web site. If the references are relative, meaning that they don't include the name of the server within them (/content.html) rather than absolute (http://www.example .com/content.html), there is no problem. However, most Web sites do embed absolute links.

Two problems arise. The first frequently occurs in situations where a proxy also is performing SSL acceleration. When links embedded in the document are prefixed with "http" instead of "https," users' clicks are made to the unencrypted pages where URLs are sometimes delivered without question or just don't work.

The second problem occurs when a proxy's domain name is different from the server's name — for example, a server named server.example.com and a proxy called www.example.com. Applications that look to the host name might end up embedding links such as http://server. example.com/content.html when they

Web-resource mapping

HOW IT WORKS Proxies often cause URL requests to fail outside the firewall. A new technology called Web-resource mapping fixes the problem by dynamically rewriting URLs to the correct form.



User requests https://www.example.com/prx/ooo/http/ server.example.com/images/logo.jpg. Server receives request for http://server.example.com/images/logo.jpg and responds with correct content.

should say http://www.example.com/ content.html.

The presence of JavaScript and HTTP cookies often exacerbates the problem. JavaScript-driven pages often dynamically assemble URLs on the client side, and the HTTP cookies are sent from the server such that the client will only send them back when communicating with the server and not through a proxy.

In most cases, site administrators lack the time, money and resources to make the significant and necessary changes to

applications to fix a problem. Instead, what is needed is a mapping of incorrect URLs to the correct form. The mapping has to happen for links being sent from the server to the client and for HTTP requests from the client to the server.

Web-resource mapping dynamically rewrites URLs embedded within HTML, DHTML, XHTML, Cascading Style Sheets, JavaScript, HTTP cookies and Flash. This causes links that once appeared as http://intranet.company.com/content. html to now appear as https://proxy.

company.com/prx/000/http/intranet. company.com/content.html.

While this might seem to be a simple case of "search and replace," it is a more complex task because HTML standards are rarely followed and JavaScript cannot be altered in an ad hoc manner. Java-Script in particular poses great challenges because the code must remain syntactically and semantically correct.

Another key role of Web-resource mapping is to force SSL onto applications that could not otherwise support it, or do so in an incomplete manner. This is accomplished by rewriting each link so that it must use SSL for all transactions, such as starting all links with "https" instead of

Ideally, Web-resource mapping is performed inside the proxy server sitting between a client and server. The proxy simply can sit in front of application and Web servers and transmit their requests. When the proxy receives an HTTP request, it parses the modified URL, rewrites it to agree with what the origin server expects and finally passes it back to the server so the server doesn't realize that the content was modified in any way.

IT departments supporting applications that go through a proxy performing Webresource mapping benefit from centralized authentication, authorization and accounting. Regardless of which server sends the content, all requests for content go back through the proxy. And if the proxy is using SSL for all the links, the data flow is guaranteed to be secured.

Shah is director of product management at Array Networks. He can be reached at sshah@arraynetworks.net.

Ask Dr. Internet By Steve Blass

We have two PCs running Windows 2000 connected to a switch. We connect the broadband link to the same switch, but we can only have one computer connected to the Internet, and cannot use Windows networking to communicate with the other PC. The ISP allows for only one IP address to be allocated dynamically from its Dynamic Host Configuration Protocol server. Either PC can be connected, as long as we first release the IP address. Is there a different way of solving this problem? We've

thought about forcing both computers to use the same media access control address, but don't know what the consequences would be.

The solution is not duplicating the MAC addresses. Hide your LAN behind a gateway that provides network address translation (NAT) and routing services for your LAN's Internet connection. It's possible to configure Routing and Remote Access Services on one of the

Windows 2000 PCs to provide these services for the other PC using Internet Connection Sharing or NAT. See www.nwfusion.com, DocFinder: 5934, for instructions. It would be easier to buy a small broadband router to place between your switch and the ISP connection.

Blass is a network architect at Change@Work in Houston. He can be reached at drinternet@changectwork com

Technology Update 38. HotworkWorld 5 19 03 www.nwfusion.com

GEARHEAD INSIDE THE NETWORK **MACHINE**

Mark Gibbs



e set out last week to look at a server-automation package before we got distracted by a cool remotecontrol tool. But now we're back and ready to explore ActiveBatch from Advanced Systems Concepts (www.advsyscon.com).

Over the last few months we've reviewed several automation products, but Active-Batch is different. First, it only runs jobs batch files or executables; it doesn't provide generalized programmatic building blocks, as others do. Second, it can execute jobs on Windows, Linux, Unix and Open-VMS. Third, it can coordinate jobs across

Under ActiveBatch, jobs can be as simple or as complicated as required. They can be chained together, with the success or failure of the individual jobs determining the success or failure of the chain.

You can schedule jobs by date and time, system events and application events. They also can be defined for execution on a specific machine or class of machines, exe-

Phenomenal job management

cuted on a virtual machine that is based on workload or other criteria, and complete audit trails of the submitted job, including a log of the output of the job, can be created. Finally, you can define alerts and notifications to monitor and report on job status.

The documentation — a 435-page PDF

ActiveBatch has three components clients, job schedulers and execution engines. The clients run only under Windows and provide the user interface to manage the job schedulers, which also run only under Windows. The job schedulers, in turn, drive the execution engines, which run on all versions of Windows .Net; Open-VMS Version 7.1 or later; Compaq Tru64 Version 4 or later; Sun Solaris (SPARC) Version 6 or later; HP-UX Version 11 or later; and IBM-AIX Version 4.3 or later.

The job schedulers, which run as Windows system services, keep track of all jobs, and determine when and where a job has to execute. Underlying the job schedulers is a database. You can use Microsoft SQL Server, Oracle or other databases compliant with Open Database Connectivity. If you don't have a suitable database installed, Advanced Systems Concepts can provide you with Microsoft SQL Server Desktop Engine for no additional licensing fee.

The client can be a GUI application or a command-line interface. Also, ActiveBatch is based on Microsoft's Component Object Model, so object-oriented scripting languages can directly access ActiveBatch's objects, properties and methods. There also is a Microsoft Management Console snapin for managing security policies that apply to every aspect of running jobs.

The client interface is reminiscent of Microsoft Outlook's, with a list of views in a toolbar down the left-hand side. There are five views: ActiveBatch Neighborhood, Runbook, Reporting Facility, Relationship Editor and System View.

ActiveBatch Neighborhood is an interface for managing all the objects in the ActiveBatch system — servers, queues, execution agents and jobs.

The Runbook is a calendar-style summary of jobs that have been run and those that are to be run — color-coded according to status. You can choose a specific day from the calendar panel or working week (Monday to Friday) or complete week view. Clicking on a job displays its properties in the panel under the calendar.

The Reporting Facility pops up a reporting interface that generates HTML-templated reports. The Relationship Editor lets you visually define relationships between jobs. The System View is a real-time display that shows which jobs are running and the interactions between job streams.

ActiveBatch supports Windows Management Instrumentation (WMI), which is Microsoft's take on the Distributed Management Task Force's Web-Based Enterprise Management standard. WMI lets ActiveBatch use any of the thousands of system and software events as Event Triggers to start, stop or modify job execution.

This is a very complex product. You can think of it as the Windows scheduler on steroids. It can be used to create complex job execution and management systems that are superbly integrated with Windows, as well as executing and managing jobs on the other supported platforms.

ActiveBatch comes in three versions: Standard for NT Server, 2000 Server or 2003 Standard Server, Enterprise for NT Server, 2000 Advanced Server or 2003 Enterprise Server; and DataCenter for 2000 Data-Center Server or 2003 DataCenter Server (cluster failover is available on the Enterprise and Datacenter editions).

There is an optional Web interface and support for BlackBerry devices for management. Pricing starts at \$1,500.

Submit your job to gearhead@gibbs.com.

I was a bit disap-

pointed, as the expe-

rience was too hit-

During some tests, I

could connect imme-

diately and content

flowed into the device

like an outdoor spigot

filling a water balloon.

Other times, the content

slowed to a trickle. It some-

times appeared that the

browser was frozen while it

was downloading or waiting

for the content. While the con-

or-miss.



Quick takes on high-tech toys By Keith Shaw

few weeks ago we looked at the Palm Zire 71, one of two new PDAs Palm launched recently. The Zire 71's cool camera, color screen, MP3 player and digital video player make it a multimedia lover's dream.

But this is *Network World*, where we get turned on by network connectivity. For that we needed to test the other new Palm PDA, the Tungsten C (available for \$499). The device includes integrated 802.11b (Wi-Fi) wireless LAN connectivity and an embedded keyboard for users who prefer to type out their long e-mails or notes instead of using an add-on keyboard or Graffiti. It also has a great color screen, with a 320-by-320-pixel resolution that only Sony CLIE fans have enjoyed until now. High-end Palm users who haven't yet flocked to the Sony camp now have a reason to stay with Palm for a while (or at least include Palm on their short lists of devices to buy).

We've often been disappointed with PDAs that have a hard time achieving a good and fast network connection. Devices that connect to a wide-area wireless network (including Palm's Tungsten W) have done an OK job, but the unreliability of decent network speeds (and cost) have turned us off. Devices such as the BlackBerry are good at connecting with a WAN, but only because they transmit and receive small amounts of data (such as

For a good mobile Web experience, you need a faster and more reliable connection. That's where Wi-Fi comes in As public hot spots and home wireless networks

Surfing with the Palm Tungsten C

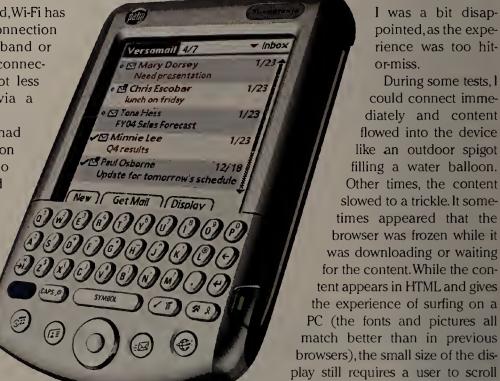
have sprung up around the world, Wi-Fi has provided users with a better connection (up to 11M bit/sec to a broadband or T-1 back end). When using this connection at work or home, it's a lot less expensive than connecting via a wireless WAN.

Other devices we've tried have had Wi-Fi capabilities, most notably on the Pocket PC front. But trying to configure the device to find and connect to a Wi-Fi network has been beyond painful.

The great thing about the Tungsten C is that connecting to a Wi-Fi network takes fewer than four steps. Clicking on the "Wi-Fi Setup" icon brings you to a wizard that scans for available Wi-Fi networks. If there are any around, the user just clicks on the network name and the device tries to connect. A VPN set-up screen also is available for

users who want to connect securely. If a network is not broadcasting and a user knows the network's Service Set Identifier, he also can enter it under an advanced setting. Connecting to an existing Wi-Fi network doesn't get any easier than this. Palm gets a standing ovation for making

Once connected, users can open up the browser with the Web icon and begin Internet surfing. On this front



Downloading e-mail becomes easier with the Wi-Fi enabled Tungsten C.

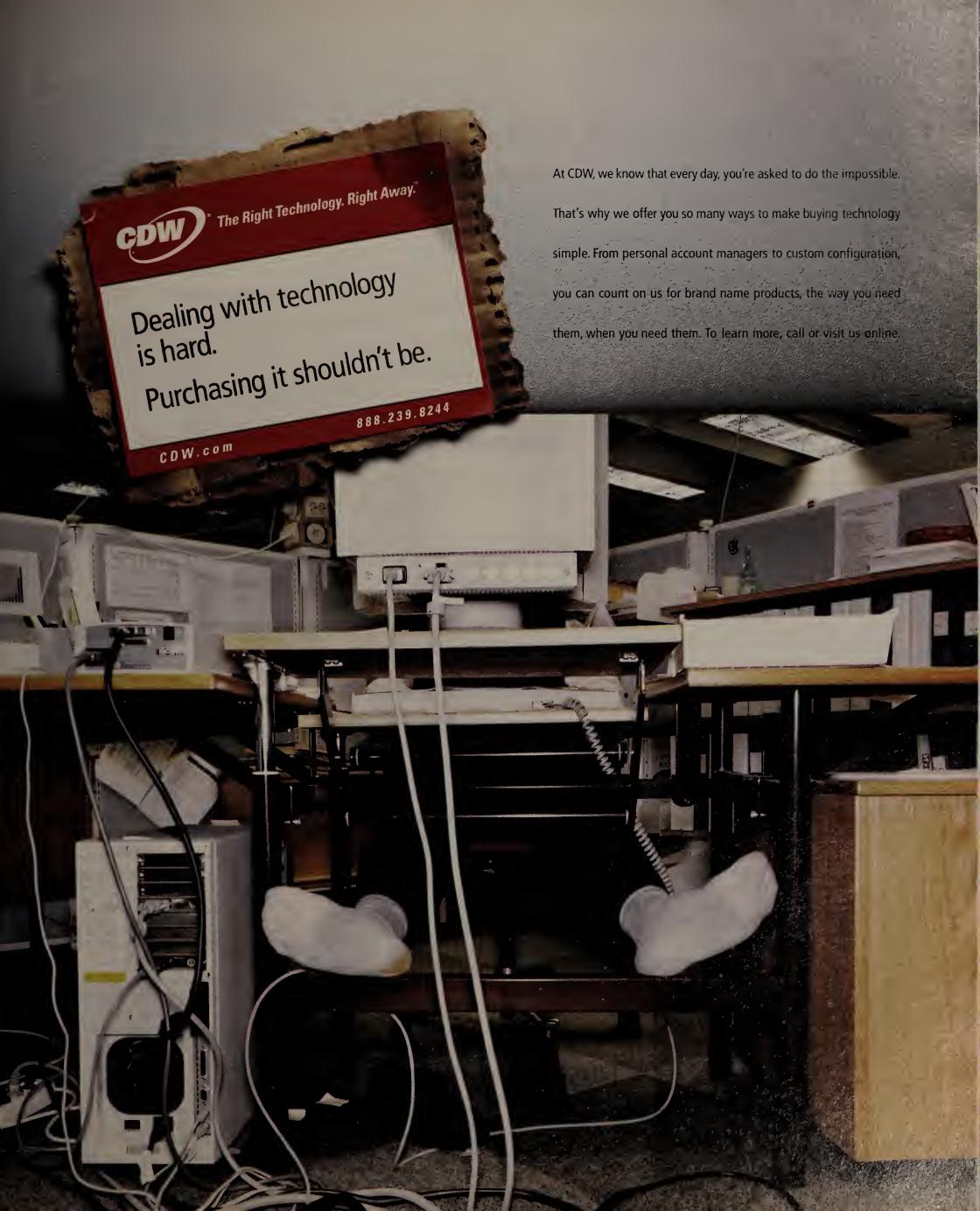
If the integrated Wi-Fi is your main reason for buying a Tungsten C, we

left and right in addition to up

suggest you look into third-party Web browsers (keep your fingers crossed that Bitstream will make a version of its ThunderHawk browser for the Palm). For others, the Tungsten C's features (fast processor, color screen, embedded keyboard) should make worth a look when making a PDA buying decision.

and down.

Shaw can be reached at kshaw@nww.com.







EDITORIAL John Dix

Big dogs give lowdown on top trends

T spending won't ratchet up in the second half and companies are more cost-conscious than ever, but buyers are calling the shots and can get important concessions from suppliers.

These were a few of the conclusions outlined in a summary of a panel discussion that Goldman Sachs Global Equity Research conducted with ClOs from Fidelity Investments, Procter & Gamble, SBC and its own company.

While the findings obviously cannot be projected, when CIOs from huge companies talk, people listen.

As a group, the CIOs said they don't see spending increasing in the second half, as some industry observers have anticipated. But they emphasized how buyers hold all the cards.

"We were struck by the almost-combative stance our CIOs took vis-à-vis vendor's traditional sales and pricing tactics," Goldman Sachs reported. "Our panel communicated a fierce determination to put greater scrutiny on purchases, squeeze maintenance dollars, get higher returns on their investments and eliminate unproductive time spent with too many vendors."

In particular, ClOs are getting fed up with software vendors. They want products that don't lock them in, better ROI and sweeter support deals. One of the clubs they are wielding in this battle is open source software, although the Wall Street firms on the panel were further along in using Linux than the others.

On the server front, Goldman Sachs said the ClOs were bullish about "moving aggressively toward Intel-based four- and eight-way servers and blade racks ... mostly at the expense of proprietary" boxes such as those from Sun. None of them, however, appear to be wowed by Intel's 64-bit Itanium processor, saying there isn't much need for it.

In terms of PCs, Goldman Sachs said the ClOs have stretched desktop replacement out to four years and are cycling laptops every two to three years.

On both the software and hardware fronts, the CIOs expressed a healthy appetite for commodity, standards-based offerings. "Our CIOs showed consistent aversion to all things proprietary and enthusiasm for standards such as Linux and XML, as well as open APIs and standard messaging," Goldman Sachs reported.

Regarding two technologies generating a lot of buzz: Three of the four CIOs are testing voice over IP, but none of them see a great enough "cost/benefit ... to spur enterprisewide use"; and all of them seem to be brushing aside on-demand computing as hype.

One of the main take-aways seems to be: Given the current market conditions, you buyers are in charge. Demand more.

— John Dix Editor in chief jdix@nww.com

opinions!

Unpatchable problem

I have a problem with the way you describe the tests against the Unix/Apache machines in your story "Be the hacker" (www.nwfusion.com, Doc-Finder: 5923). You infer that they're just as insecure as Microsoft Internet Information Server, but in reality they're not. The problem, in this case, is not inherent in Apache or Unix systems, but in the Perl script. Just move the Perl script over to the IIS system, and the same vulnerability will migrate. The exploits you discussed with IIS can be fixed with a patch; a patch won't work on the Apache/Unix side because the problem isn't with the server software. Russell Handorf

ClO ClosedNetworks Philadelphia

The middle road

Regarding Mark Gibbs' Backspin column "Restrategizing support" (DocFinder: 5924): My company has taken a middle road that is really not a middle road at all, but a combination of the two extremes. We have office staff with little to no computer skills beyond how to use a mouse; we also have technical staff with a high degree of experience. We have a standard, supported configuration, which everyone starts with. The staffers who are not very computer literate do not make any substantive changes, and we have very few system-level help calls from them. The technically savvy staffers, on the other hand, often make major changes to their systems, and as long as they don't violate security policy and don't cry for help when they break something, they are free to do so. This has enabled us to provide the best of both worlds: reliable, standard systems for those who need them, and wildly con-

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

figurable systems for those who need them. Admittedly, we are a technology company and are fairly small, but this works well for us and has minimized IT support costs.

Paul Kraus Systems architect Information Management Group Albany, N.Y.

A cheaper solution

Joel Snyder's column "Risk analysis needs a reality check" (DocFinder: 5925) hits the nail on the head. Installing security measures without a risk assessment and ROI analysis is throwing money out the window. What we should look for is \$10 solutions to million-dollar problems, not the other way around.

Robert Jacobson
President
International Security Technology
New York

Not necessarily best

In the story "WorldCom unveils new name, services" (DocFinder: 5926), David Willis, vice president of infrastructure strategies at Meta Group, states: "[MCl has] the best public IP network in UUNET, which is now the core of the company." I have a couple of comments on this quote.

First, biggest doesn't always mean best. MCI's IP network (UUNET) doesn't run at the same high speed as other carriers' networks, such as Qwest's. Qwest's network is fully meshed OC-192c, while the best that MCI can boast is a few OC-192c long-haul links. Second, because MCI's network isn't as fast and carries so much traffic, MCI's network runs at much higher degrees of congestion than other carriers'.

If I were to choose a carrier based solely on the state of its IP network, I can't say that MCI would be my first choice.

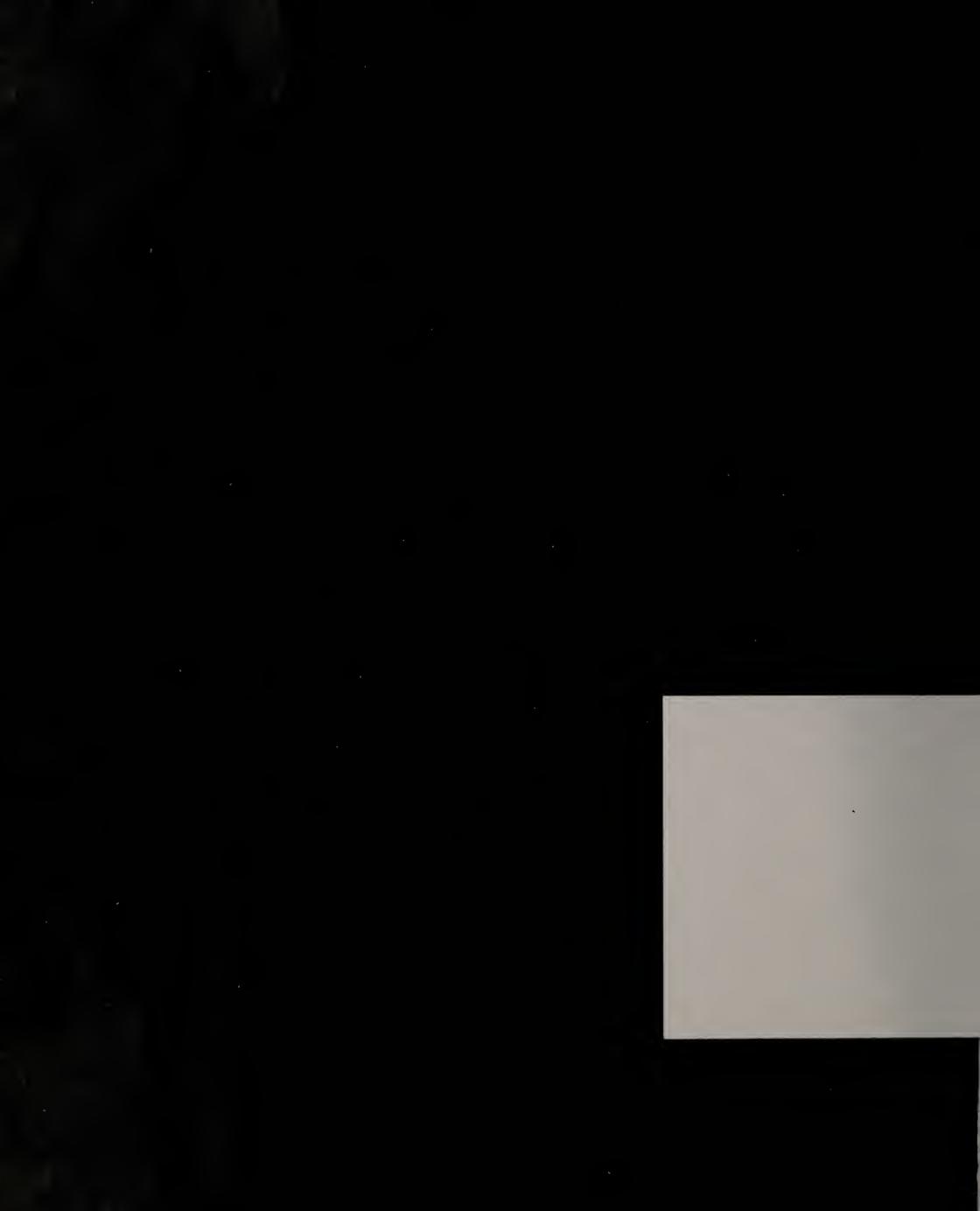
Matthew Spool New York



MORE Online! www.nwfusion.com Find out what readers are saying about these and other topics. DocFinder: 5921











PACKET EVANGELIST

Steven Taylor

T&T's recent announcement that it has certified Avaya and Cisco IP PBXs for interoperability with its voice-over-IP services has some huge implications. First, the move officially starts to bridge the gap between VolP in the LAN and in the WAN, explicitly moving WAN-based VolP beyond

simple toll bypass. Second, it enhances the legitimacy of VoIP and moves the IP PBX in particular and the VoIP market in general from a niche to the mainstream. And it also opens up a world of new "challenges," to use the common marketing euphemism for problems. (For details on the announcement, see the newsletters at www.nwfu sion.com, DocFinder: 5847 and DocFinder; 5848).

The greatest challenge for global voice network interoperability is making the transition from the traditional public switched telephone network (PSTN) to an IP-based network. Today, using the PSTN, you can call anybody, anywhere, anytime. Someday we'll be there with VoIP services as well, but making that transition as effective and efficient as possible just isn't here yet.

Let's take the AT&T VoIP service as an example. Site-to-site calls within a corporation are a piece of cake if you don't leave the AT&T service. Making all-IP voice calls to a business partner also on the AT&T network, and calling from the AT&T VoIP service to a PSTN location, also are relatively easy.

Unfortunately, that's where the simplicity ends. What happens if you want to call a business partner who uses MCl, Sprint or some other service provider for his internal network? On the one hand, you could

A VolP NNI: The next frontier

use specialized firewall gear that understands VoIP and use the Internet for transport. But there are numerous other issues, from security to quality of service, involved with using the Internet for this task.

At the other extreme, the call could be handed off to the PSTN for switching and then re-enter the IP realm. However, this is at best a

What we need is true service interworking — a Network-to-Network Interface (NNI) for VoIP. And we've been here before. In the early days of frame relay and ATM, the networks were VPNs in the truest sense. You had connectivity only to other points on your private network. And it was mandatory for that network to be provided by a single service provider.

Then the Frame Relay Forum developed the frame relay NNI and the ATM Forum developed the InterCarrier Interface to define how traffic could be handed off from one service provider to another. The good news is that the specifications were developed and worked well. The bad news is that even today, the willingness of service providers to implement NNIs is driven more by politics and marketing than by meeting customer needs.

Moving forward, the need for the rapid implementation of NNIs for VolP is obvious. But for these NNIs to meet the market need, they must be implemented openly and universally, like the Internet's peering points.

Taylor is president of Distributed Networking Associates and editor/publisher of Webtorials.com. He can be reached at taylor@web torials.com.

The need for the rapid implementation of NNIs for VolP is obvious. . . . they must be implemented openly and universally.



YANKEE INGENUITY

Howard Anderson

eality TV is hot, hot, hot! And almost no one goes to industry trade shows or seminars anymore. My solution? A new reality show: "Network Survivor," where telecom participants fight the technological equivalents of piranhas and typhoons. I dropped a note to my e-mail list for sugges-

tions and received the following replies:

"Dear Howard:

"My name is Jack and I used to be a \$20 million/year man following Wall Street. Now I am pursued by evil state attorneys general and in danger of being eaten alive by bloodsucking former investors. My life is a living hell; it makes 'The Fugitive' look like a walk in the park! I would be glad to have 'Network Survivor' modeled after my travails."

"Dear Howard:

"Our names are Matt and Jeff, and we used to run telecom for a major oil pipeline company and a large New York investment bank. We perfected the art of 'the advisory board,' where hot equipment companies would give us options on 25,000 shares, and we would buy their equipment — and make fortunes when these same companies went public and we could flip the stock. Today? Nothing, nada, zilch! We are forced to live on (gasp) ... our salaries! Tell our story on 'Network Survivor'!"

"Dear Howard:

"Call me Bernie. I perfected the art of cooking the books. I would buy companies for overinflated values and then book fictitious revenues by something I called swaps. Now I am forced to wear an orange jumpsuit and survive with a group of inmates that wouldn't know a 401(k) from Levi's 405 jeans. Think HBO — 'Oz' in pinstripes! Have your people call my people. Let's do lunch (here, by necessity)."

Must-see TV: 'Network Survivor'

"Dear Howard:

"My name is Dave and I run the largest long-distance telecom company in America. All my life I trained for this job. And when I get it, what do I get? Two-thirds of my assets are sold to some damn cable company! Every telco in the country is my competitor, and I lose share each month. I am forced to oversee the Decline and Fall of an Empire. Everyone wants a piece of my hide!"

"Dear Howard:

"Michael here. I'm currently head of the FCC - and I thought I had a cushy job. My old man was The Man, and I had it made ... until my cohorts, my buddies, stabbed me in the back! Didn't they understand the rules? I was the Sun god; I could have retired on the consulting fees I would have made. Now I am mocked. Mocked! Tell my story!"

"My name is Roth. I used to run the largest telecom equipment company in Canada. I was loved; I was revered. I regularly was bestowed with honorary degrees. If it were possible, I would have been knighted. I was hiring almost every engineer who graduated in all of Canada. My stock had made virtually every Canadian rich, rich, rich! Then I fell from grace, My company collapsed. My stock collapsed. Today, people shun me on the streets; urchins taunt me, Canadians spit when they hear my name. I am forced to run the gauntlet of ridicule and ire. Hell hath no fury like a Canadian scorned!"

There you have it, reality TV lovers. I'm sure you will insist that "Network Survivor" be carried on your local cable channel or be available on Pay Per View. Call now; our operators are standing by.

Anderson is senior managing director of YankeeTek Ventures, a Cambridge, Mass.-based venture capital fund for early-stage technology companies. He can be reached at handerson@yankeetek.com.

Telecom participants fight the technological equivalents of piranhas and typhoons.



JOIN US IN A CITY NEAR YOU!

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June 12 > San Jose, CA > Silicon Valley Co for sale.

June 17 ➤ Philadelphia, PA ➤ Doubletree Hotel

June 19 ► Chicago, IL ► Hyatt Regency O'H

Voice Tolowski

s your voice over IP network in place? Finally up and running? Now the questions start and the real work begins. Are you on track to realize the power and profits of a converged network? Do you have the answers, expertise, and solutions you need to deliver on the promise of your deployment? Join us at the Network World Technology Tour Voice Over IP: Maximizing the Impact of Your Rollout. Learn how to tackle the technical, organizational and accounting requirements that position you to meet, indeed exceed, the "day-two" demands and expectations of users and management alike. At this watershed event you'll compare experiences, establish benchmarks, and gain clarity with colleagues who - like you - bridged the voice/data gap, defined the future of networks, and now lead the voice over IP revolution.

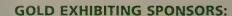
Advance Reservation is Required for Complimentary Attendance
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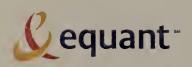
Online at www.nwfusion.com/events/voip2 or call 1-800-643-4668

Practical intelligence & takeaways:

- Cost, quality and savings benchmarks
- Training programs for in-house staff to support VoIP deployments
- Industry "best practices" performed within other IT organizations
- Key strategies that capture both tangible and intangible ROI
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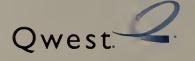














This event is limited to Network and IT professionals involved in the evaluation, purchase and implementation of voice over IP products and services. Network World Events reserves the right to determine total audience and profile of complimentary attendees. Paid registration is also available.

Wireless LAN switches In

Technology INSIDER

Wireless LAN switches could drive 802.11 rollouts to the next level.

A switch in time



generation.

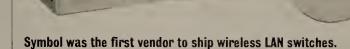
Wireless LANs can make end users more mobile and more productive. And installing a WLAN in a new building rather than running cable can be a big moneysaver. But how do you figure out the ROI of WLANs? Turn to page 48 for calculators that will help you nail down WLAN costs and determine WLAN savings and revenue

■ BY NANCY GOHRING

The wireless LAN switch is emerging as the missing piece that will let wireless networks scale beyond the small workgroup to full-blown enterprise implementations.

Until now, WLANs consisted of a client connecting to access points crammed full of security, management and other intelligence required to control the wireless portion of the network. The problem is that managing multiple access points was an unwieldy prospect for enterprise deployments that could include hundreds or thousands of access points.

Furthermore, installing access points has been a headache. Many companies hire consultants to conduct site surveys and radio frequency planning to determine the best place for access points. That's expensive. Also, WLANs initially offered such poor security that some IT managers have outright banned them in their offices.



It all adds up to lots of interest and lots of pilot projects, but not very many enterprisewide rollouts. "Right now, it's really been mainly trial deployments," says Russ Craig, research director for Aberdeen Group.

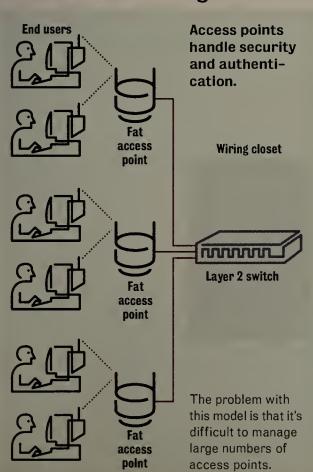
An array of point products have hit the market over the past couple of years aimed at solving these problems. But that means if IT departments need more than one of those products to solve multiple problems, they have to become system integrators, something few departments have the budget or manpower to do.

Enter the WLAN switch. "The conclusion a bunch of folks came up with is that you make the access point a less intelligent device, and you enable a switch or a router to communicate with all the access points," Craig says. "That way you can manage them remotely and configure them from a central panel." Most new products also deliver power over Ethernet to the switches instead of requiring AC power.

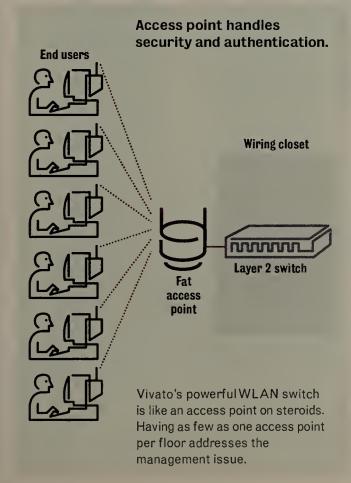
Combined, these features will enable less expensive and easier deployments, which could provide a huge boost to the WLAN market. "The uptake is going to be significant," Craig says.

The world of wireless LANs

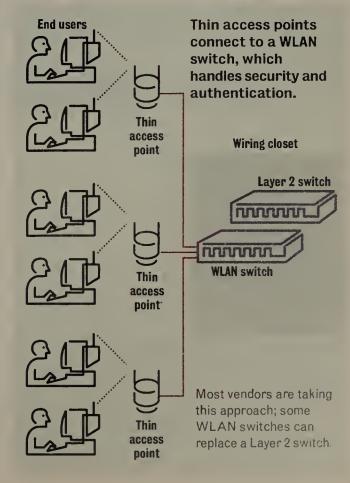
Before WLAN switching



The super access point approach



The thin access point approach



The term switch is a bit of a misnomer, because while the WLAN switch offers similar management and control functions as a wireline switch, it doesn't do so on a port-by-port basis and it doesn't provide dedicated bandwidth to an end user. An exact parallel essentially would require dedicating a single blast of wireless coverage per user. Until that happens, the term switch will have to suffice for the current generation of product.

Start-ups and old timers in the networking and wireless worlds are flocking to the wireless switching market. The list includes AireSpace, Aruba Wireless Networks, Nortel, Proxim, Symbol Technologies, Trapeze Networks and Vivato. Although each aims to solve the same set of problems, they do so slightly differently, and while all but Vivato dumb down their access points, they do so to different degrees.

Dumbing down

"We're trying to drive the commoditization curve down so an access point becomes as cheap and mindless as an Ethernet port on your wall so you can put them wherever you need them," says David Callisch, marketing director for Aruba. Aruba's access point is light but not totally empty — it does air monitoring to watch for rogue access points.

Trapeze also doesn't completely strip all intelligence from the access point. From a control and management aspect, we have a thin [access point], says George Prodan, vice president of marketing for Trapeze.

But Trapeze access points handle packet processing functions such as encryption/decryption and quality of service.

Symbol offers some of the most stripped down access points on the market, comprised of power over Ethernet capability, an omni-directional antenna and the 802.11b radio.

Vendors also are differentiating themselves by the degree to which they upset existing systems. The ideal solution integrates the WLAN with existing wired networks so companies can continue to take advantage of previous investments. All the vendors support that philosophy, but they ask for some level of upheaval. At the very least, they push customers to use their access points to get the best performance.

Standing out

With so many start-ups attacking the same market, the pressure to stand out from the crowd is intense. Aruba says it hopes its flexible architecture will attract customers. Users will have the option of placing the Aruba switch in the wiring closet with existing Layer 2 switches or centralizing the switch in the data center.

Where the WLAN switch sits might be a crucial selling point for many customers. Sarah Kim, an analyst for The Yankee Group, says that asking customers to replace an existing switch will be a tough sell. "There's no way anyone in this market will go to a prospective customer and say, "Take this out of your closet," she says.

But Proxim does just that. Proxim's Maestro switch will replace an existing Layer 2 switch, handling wired and wire-

The established players

Three established companies have entered the WLAN switch arena.

	Nortel	Proxim	Symbol
Core technology	Switching	Wireless	Wireless
Product name	Security Switch	Maestro	Mobius Axon
Shipping	No	No	Yes
Where intelligence resides	Can be split	Switch	Switch
Where switch is deployed	Wiring closet	Wiring closet	Wiring closet
Distinguishing feature	Security switch connects to VPN switch.	Has been shipping WLAN management tools since 1998.	Has been shipping WLAN switch since November.

less switching in a single box. "Maestro is truly an Ethernet switch," says Georgeanne Benesch, vice president of product management at Proxim. "What we've done is added functionality to a switch to enhance it for wireless."

Still, Proxim says it thinks it has the lead on competitors because Maestro builds on the experience of Proxim's first-generation product, Harmony. Three years ago it started shipping Harmony, which centralized WLAN systems, but wasn't a full switch.

Each vendor has a heavy focus on security, offering solutions to address security at all layers. They all support 802.11

standard security mechanisms including Wi-Fi Protected Access and 802.1X, and multiple virtual LANs.

Trapeze is unique in that it doesn't support VPNs because it says the setup and tear down time is too long to allow quick enough handoffs to support voice services. Instead, Trapeze offers a variety of techniques that can encrypt transmissions over the air because the encryption happens at the access point. "It's much more powerful than a VPN termination in the switch, which leaves the rest of the connection in the

Vivato's Wi-Fi switch can be mounted indoors or outdoors.

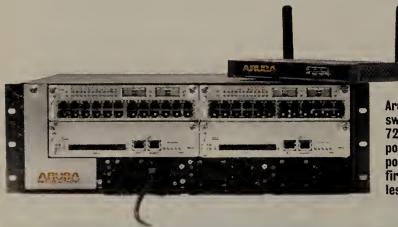
clear," Prodan says. "Our wireless solution is more secure than the wired" network at most corporations, he says.

Outing rogues

The way each company handles rogue access points also is worth looking at closely. Aruba's access points scan the air so that the switch can see illegal associations. The switch can send a message to a nearby authorized access point, which disconnects the client associating with the rogue access point.

Symbol's client devices look for unauthorized transmissions over the air, reporting that data back to the access points. "We make cooperation a whole solution, not just in the infrastructure," says Ray Martino, vice president and general manager at Symbol.

AirFlow's approach to rogue access points is unique because of the way it handles media access control (MAC) addresses. In a typical WLAN network, each access point has its own MAC that associates with the user's client. In an AirFlow network, the client associates with a single MAC that sits in the switch. The architecture makes roaming easy because reassociation isn't necessary when a user moves from one access point to the next because the MAC never changes. It also eliminates interference issues because each access point can operate on the



Aruba 5000 WLAN switch supports up to 72 10/100 Ethernet ports, six Fast Ethernet ports and provides firewall, VPN and wireless security features.

The start-ups

Five start-ups have announced WLAN switches.

	AirFlow Networks	Airespace	Aruba	Legra Systems	Trapeze
Product name	AirSwitch	Airespace Wireless Switch	Aruba Switch	Legra Switch	Mobility Switch
Shipping	No	Yes	No	No	No
ls Intelligence In access point or switch?	Switch	Switch	Switch	Switch	Both
Where is switch deployed	Wiring closet	Wiring closet	Wiring closet or data center	Wiring closet or data center	Wiring closet
Distinguishing feature	Strong Layer 2/3 switching, all access points share one MAC address.	Control system software for provisioning, optimization and management.	Automated site survey, self- calibrating Wi-Fi network.	Legra operating system on Linux kernel lets switch run Linux applications.	Predeployment planning tools and management tools.

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WLAN continued from page 44

same channel."It's the networking effect as opposed to taking isolated environments and pulling them together," says President and CEO Robert Machlin.

Machlin says his competitors are providing a Band-Aid solution that connects isolated access points. Instead, Airflow redefines the shape of the network by centralizing the MAC function into the switch "so that the access points are nothing more than extension cords," he says.

One MAC address helps with security. Rogue access points can't connect to the network because they won't have the same MAC address as the rest of the WLAN network.

Customers could use different channels with AirFlow's solution, but they would do so to serve their own purposes. For example, they might want to tune the access points that serve one department to a different channel than the one next door.

AireSpace, which has deployed its platform at the Duke University Medical

Going outdoors

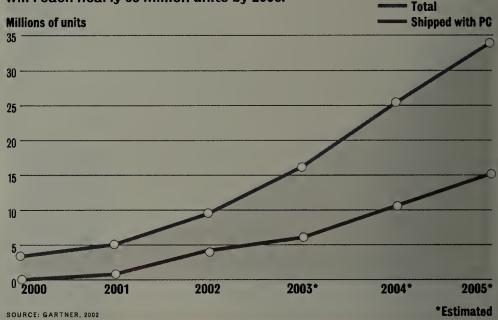
Vivato has created a buzz with an unusual approach that puts it in a category of its own. Vivato's offering uses smart antenna technology to address the radio frequency shortcomings of current Wi-Fi systems. Instead of spewing radio signals out over 360 degrees, Vivato antennas focus three parallel narrow beams on clients that are using the connection. Because it focuses on narrow areas, power is concentrated and the beam can cover a greater distance than traditional access points. Even though the Vivato system complies with the 802.11 standard, the antenna can reach as far as 900 feet, replacing eight to 12 access points, Vivato's Phil Belanger says.

Still, Vivato's switches, which usually are located on each floor of an office building, must each be updated individually because all the intelligence is in the same box as the antenna and radio. Vivato has introduced an auxiliary product that ties each switch to a single management point.

Vivato also is unique in that it is selling an outdoor switch that can beam 802.11b signals over distances of up to 3,200 feet. This switch could be used on a college campus, in a downtown area or even to

WLAN adapter shipments

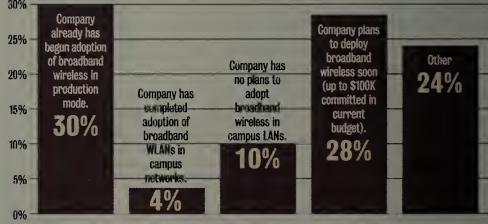
Gartner predicts that worldwide shipments of wireless LAN adapters will reach nearly 35 million units by 2005.



WLAN adoption plans

Only 10% of 50 companies surveyed said they had no WLAN plans.

Percent of respondents



SOURCE: TOLLY GROUP, 2002

and roaming.

Nortel WLAN

2250 offers

Security Switch

access control.

load balancing

Center in Durham, N.C., and the University of California at Berkeley school of electrical engineering and computer science, focuses on ease of setup and operation, as well as security.

"We put a lot of energy into building a system that mediates the [radio frequency] environment automatically," says Alan Cohen, vice president of marketing for AireSpace. The system includes tools for load balancing, interference management and dealing with rogue access points.

blast wireless connectivity from one building to another without having to install access points inside.

The WLAN switch space isn't just for startups, however. Nortel recently jumped in the game with a product it refers to as a security switch. Nortel's main goal with the switch is to let customers administer one security policy that operates across wired and wireless networks.

"You can get to one security manager and define a policy and apply on all subsystems in a consistent and easy fashion,"

says Atul Bhatnager, general manager for Nortel's Ethernet switching business.

Another category of vendors makes hubs that they say can perform all the same functions as WLAN switches. Vernier Networks offers a hub connecting access points from any vendor. Bluesocket and ReefEdge fall into the same category. Bluesocket also has announced a "switch wireless gateway" that combines its existing gateway functionality with switching.

Each player in the WLAN switch space brings a slew of capabilities that each thinks will be most important to customers. But the introduction of products is really just an opening salvo. "WLAN is a relatively immature technology," Symbol's Martino notes."The feature battle will go on forever." Even after this story went into production,

two more vendors came to our attention:

- Legra Systems announced what it calls the first "wireless operating system," a Linuxbased operating system that's part of its forthcoming wireless LAN switches.
- Chantry Networks is touting a family of access points and Layer 3 routers. Chantry says Layer 3 functionality allows for centralized management and for the creation of virtual wireless LAN segments.
- And Network World reported last week that HP is entering the market.

Gohring is a freelance writer. She can be reached at nangohring@yahoo.com.

A switch by any other name

Two start-ups have products that compete with WLAN switches but aren't technically switches.

	Chantry	Vivato
Product name	BeaconMaster	Wi-Fi Switch
Shipping	No	No
What it really is	It's a router.	It's a powerful Wi-Fi access point; connects to Ethernet switch.
Where Intelligence resides	Router	Fat access point/one per floor
Where deployed	Data center	Indoors/outdoors
Distinguishing feature	Layer 3 features such as quality of service and routed subnets.	Antenna technology lets Wi- Fi beam travel 2.5 miles outdoors, 984 feet indoors.



In the Trapeze Mobility Exchange System, switches handle user information for authentication, roaming and access control. The access points can handle encryption and support roaming.

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The ROI of wireless LANs

Key points to consider when providing justification for wireless LAN investments.

III BY KATHRYN KOROSTOFF

2 6 Par 8 - 14/83

ROI analysis for any technology typically involves calculations that show how a given solution saves money, makes money or both. Wireless LAN ROI analysis is no exception. However, the experiences reported by those who deploy it vary dramatically.

In planning your WLAN ROI, you must address a few key questions:

- Are you choosing between wireless and wired for a new LAN installation? Or are you deciding simply whether or not to add a WLAN to an existing wired LAN?
- Are you deploying in isolated workgroups, or are you building an enterprise solution (which will require deploying access points not just for client connections but possible also for point-to-point links)?
- How mobile are your employees? Do they need to move around frequently during the workday? Do they work in each other's offices? Do they have working meetings where access to server-based applications can be important?

Hard questions

As these few questions show, the type of deployments vary a lot and can affect the potential ROI.

How many access points do you need? The number of access points varies with the number of end users and size of building. Different organizations use different rules of thumb, but typically the range is 10 to 20 end users per access point.

How much time will you spend planning and placing access points? The time spent placing access points varies with building specifications. Some network managers report that locating access points is a snap; others report that it can take time in their buildings because of building materials on placement/types Go online for more wireless research. of wall.



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Additional benefits

In addition to employee time savings, WLAN users commonly experience harder-to-quantify sources of return. One such example is improved employee satisfaction. We often hear wireless-equipped employees talk about the satisfaction of being able to keep a meeting short by having access to applications or files while in a conference room. What employee wouldn't value a technology that helps keep meetings short?

It's all about image

Users often report even less tangible benefits. For example, consulting companies that want to project a technologyleading image to clients visiting their offices would want their clients to see laptop-equipped consultants accessing data whilst untethered. There is value in projecting an image. It's just hard to quantify.

The many factors contributing to WLAN ROI vary from industry to industry, from company to company, and many of them

When you consider your unique needs and those of your employees, you can more readily determine the if, and the

when, of WLAN deploy-

Later this year something to consider is when Wi-Fi-compatible phones hit the market, it will add a new dimension to the WLAN ROI case. Stay tuned.

Korostoff is president of Sage Research in Natick, Mass.

Costs vs. savings

These tables outline costs and savings/revenue generation for LANs.

VLAN costs Hardware costs	Access points		
	Wireless network interface cards (for installation and extras for spares).		
Software costs	 Security or VPN software (some WLAN customers use VPNs to provide security on the wireless network). 		
	• Network planning (time spent to plan access point location, install and configure NICs).		
Installation costs (time for either staff members or consultants)	 Access point installation and configuration. Enabling security (WEP, WPA, among others). 		
Ongoing maintenance costs	 In addition to normal maintenance costs associated with networking, network managers report they spend time on a new activity: enforcing WLAN policies (including identification of rogue access points and making sure employees don't 		

share WEP keys).

Network cabling	• For new installations, choosing a WLAN reduces the amount of money spent on cabling. While some organizations installing WLANs also choose to install Category 5 cable to the desktop, some don't. They might install Cat 5 only for certain workgroups, and might skip over conference rooms and meeting places. Thus, the amount of cable savings will vary. Still, between the cost of the cable itself and the cost of installation, savings can add up quickly.		
IT staff time	 Network managers sometimes find they spend less time on moves, adds and changes withWLANs. As workgroups move, consolidate or merge, the amount of time spent administering these changes can be less with WLANs. 		
Employee time savings	•The most quantifiable benefit of WLAN use is time savings. Hours saved per week, per employee, and the		

corresponding money savings will vary among industries and organizations.

Other time savings users cite:

- Accessing e-mail anywhere, for example at the cafeteria during lunch.
- Taking instantly accessible notes and being able to communicate during meetings.
- Retail: Being able to check something on the network directly from the sales floor.
- · Accessing information directly, rather than calling a colleague to retrieve it.



Management

RFP strategy

Follow these do's and don'ts for getting the best deal for your network project.

BY TIM GREENE

As the manager of telecom procurement for insurance giant Aetna, Donna Daigle oversees purchases of \$143 million in telecom services and network gear. She also is a member of the Caucus, an association of technology procurement professionals. Recently at a Caucus seminar called "Writing Strategic RFPs" she shared some of her expertise in creating RFPs, assembling teams to write and analyze the documents, and how to effectively negotiate with the vendors who submit them.

Building an RFP team

- Involve members representing all areas of buy-in and sign-off end users, IT staff, legal staff, network security, procurement and human resources.
- Restrict who on the team is allowed to speak directly to suppliers. Keep it to two people: a technical person and business person.
- Point out that through their 401(k) or profit sharing, employees are invested in the company's performance. Getting a good deal will help the bottom line.
- Let groups represented on the team rotate people in and out. They'll have no continuity, be unaware of agreements the team already has reached and generally slow things down.
- Let vendors contact employees outside of team meetings. Vendors will use the opportunity to ferret out information that can give them an advantage.
- Promote the idea that the RFP must yield the best product at all costs. The cost must be in balance with business needs.

Dealing with vendors

- Look for the slide that vendors often flash up quickly to show the names of their marquee customers and assign team members to write down the names. These customers might not be on the list of satisfied customers that vendors give you as references.
- Get vendors to sign nondisclosure agreements regarding the RFP.

- Tell suppliers who else is submitting an RFP. They know their competitors' prices and will tailor their bid to slightly undercut them rather than giving you the best deal.
- Ever reveal your budget. That will tell suppliers just how high they can push the price of their proposal.

Writing the RFP

- Allow space for suppliers to think creatively. Describe your business needs and see what they come up with.
- Notify vendors that the RFP will become part of the awarded contract. If they won't stand by it contractually, the RFP should be suspect.
- Specify the format you want proposals sent in CD, paper, floppy disk and the number of copies you want. Require separate attachments that can be distributed easily among your corporate departments.
- Let vendors ramble. Limit the number of pages they can submit to reduce the time it will take to review them.
- Let vendors keep information that is proprietary to your business. Get it back. Don't describe more of your network environment than they need to know to bid.
- Ask compound questions. "Does your software support Windows, Unix and AppleTalk?" leaves wiggle room for a yes answer when the software actually only supports Windows. Instead, ask about support for each in a separate question, leaving no room for confusion.

Evaluating RFPs and demonstrations

- Ask end users what features they need vs. those that would be just nice to have. Make the must-haves your high-level requirements.
- Develop a point system for ranking the proposals.
- Make sure features and functions actually are demonstrated, not just talked about. Find out if any product modifications were made to get the demo to work.
- Document what you heard in the session as soon as possible and certainly before you sit through another vendor's demonstration.
- Watch nonverbal communications. See whether the sales pitch makes the vendor's technical team fidget or roll their eyes.

- Have a large number of choices for scoring. Award one, three and five points only based on individual requirements to spread out the numerical value of scores.
- Have everyone read the entire RFP. Divvy up the work into subteams that take only certain sections from all the RFPs and compare them.
- Pay for product evaluations or consider alpha and beta products.
- Go to the vendor's facility for a demonstration. You want to see it work in your network environment and see how it affects performance of other traffic.
- Permit vendors to stray from a technical discussion and avoid answering your questions.

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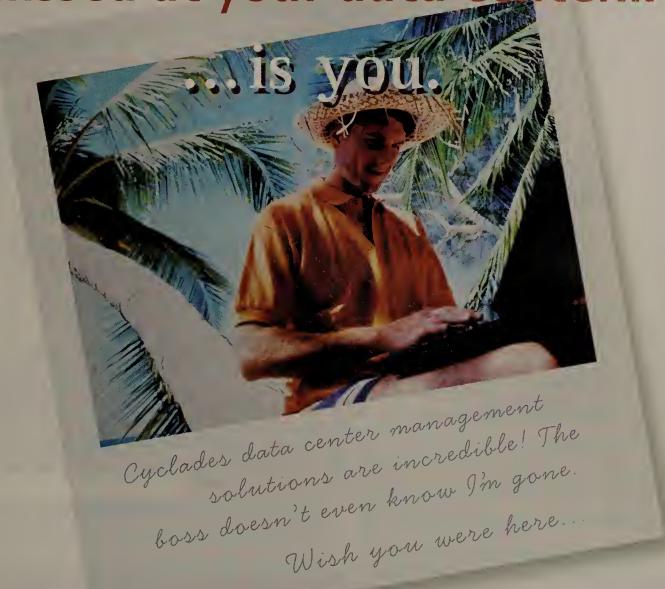
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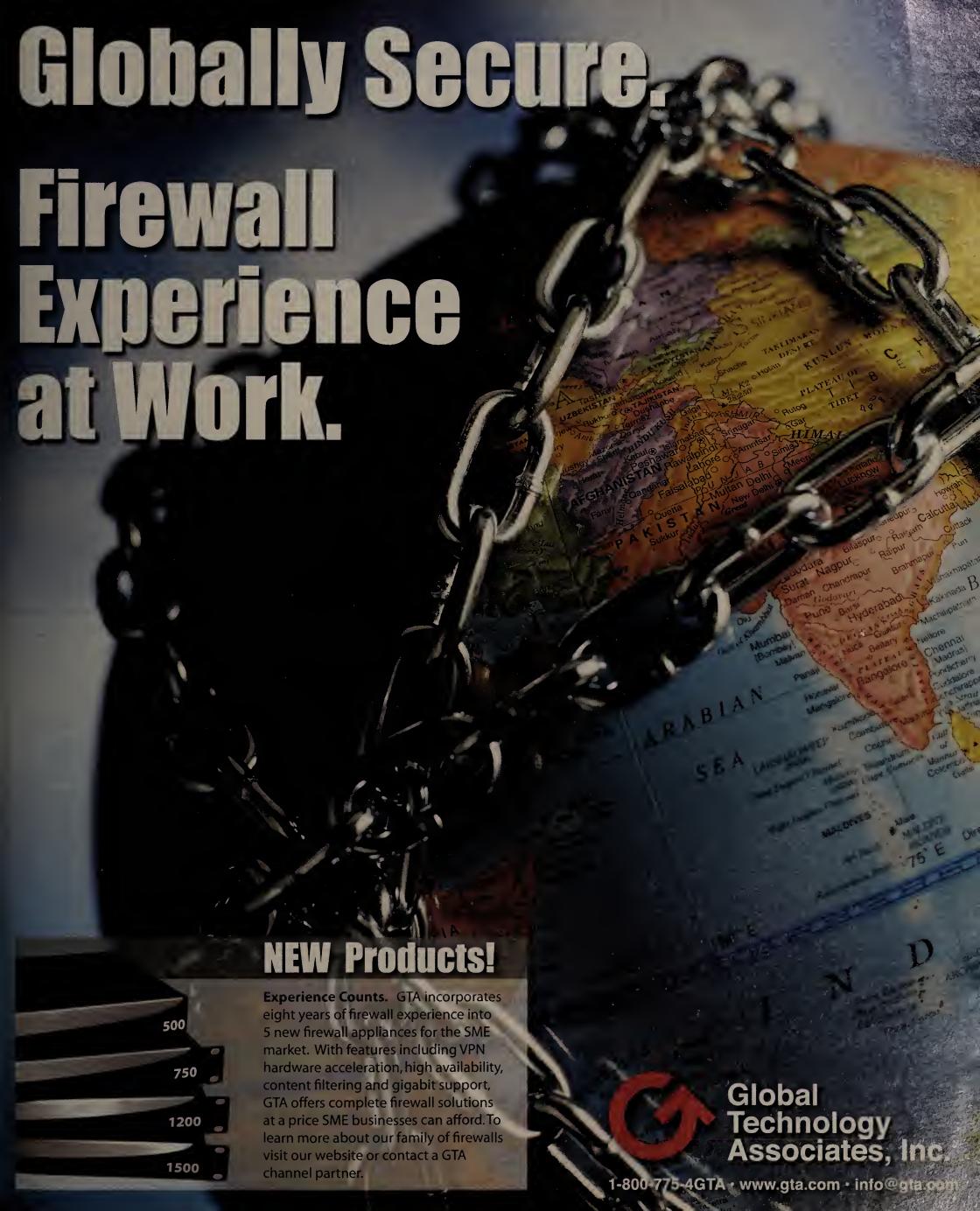
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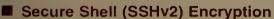


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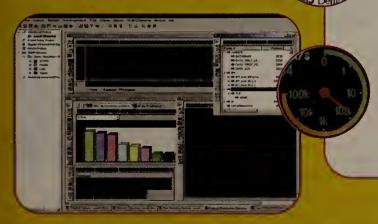
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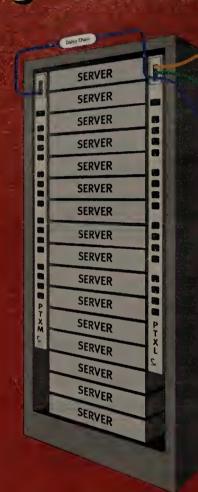


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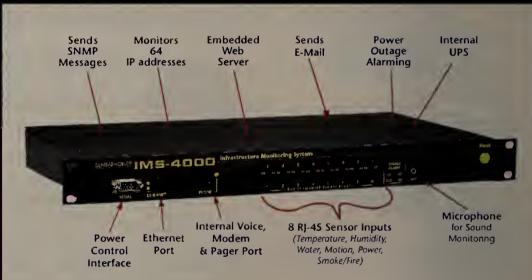
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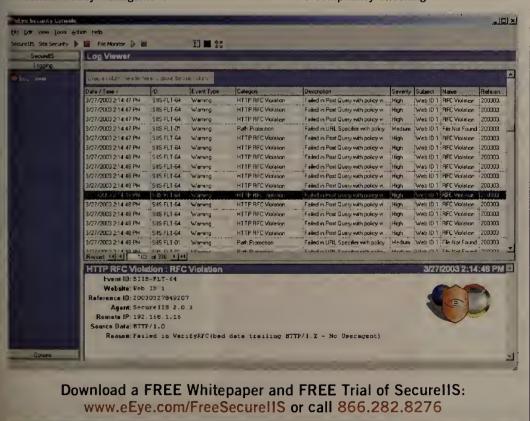
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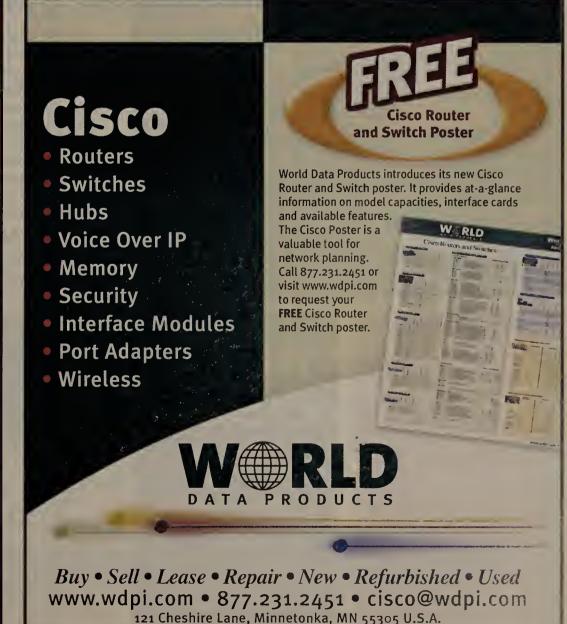
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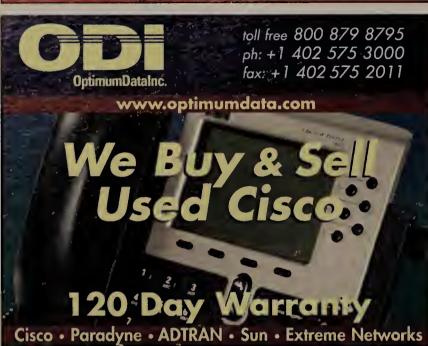


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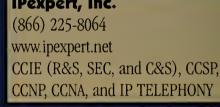
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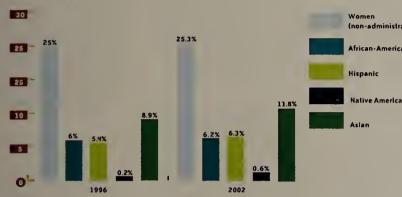
Diversity in IT Careers

hen the Information Technology Association met earlier this month for the annual Workforce Convocation, there were two critical items for consideration - the state of the IT workforce and the report of a Blue Ribbon Panel on Diversity.

In its annual survey of 400 hiring managers, ITAA found that the employment bounce back predicted a year ago didn't bounce. However, the same hiring managers say the downsizing era seems to be at an end. At year-end 2002, 10.2 million people were employed in IT in the United States - about even with employment figures for 2000. And just over 400,000 new jobs are planned for 2003 - slow but steady growth compared to the exponential growth of the past. The key skills needed are in programming/software engineering, technical support to capitalize on new IT solutions and enterprise management implementation and improvement.

Blue Ribbon Panel Report on Diversity Demographic representation by percentage of total IT professionals

Source: ITAA 2003



Nine of 10 workers will support banks, insurance companies, manufacturing companies or other non-IT businesses

In the midst of this maturing of the IT workforce, the ITAA also issued three priorities with regard to diversity. According to Bob Knowling, chairman of SimDesk Technologies and chairman of the ITAA panel, the Blue Ribbon Panel's priorities aren't "very provocative." However, Knowling is challenging IT leaders and human resources professionals to take provocative action. "The only way I have ever seen a company change its face is through the will of the CEO and board," says Knowling. "The rest of the work in this report is window dressing if there isn't support and commitment at the top, including making sure you have charged executives with performance improvement in this particular area and link their pay to improvement.

"We - in this report - are on spot with the diagnoses and

have to admit that these are merely practical steps," adds Knowling. "There will be more than 400,000 new jobs this year. We must have the dialogue that this is a business imperative. Left to our own devices, we fill the jobs around us with Women (non-administrative) people who look like us – it's an orientation, not racism. But I've seen first-hand what can happen when the executive suite reflects that commitment to diversity. The organization grows by leaps and bounds when women and people of color show up."

The second priority in the report is to increase corporate outreach and mentoring. To assist, the Blue Ribbon Panel issued a list of bestin-class examples. Specifically, the committee called for establishing professional forums that bring together diverse IT professionals and pro-

vide support to such groups as Black Data Processing Association, Women in Technology, the National Association of Female Executives and the Society for Hispanic Professional Engineers.

The final priority, fostering stronger partnerships with colleges and universities, deals with the pipeline of talent and the future. "We've seen some incremental improvements for women and Hispanics over the past eight years, and we've seen improvement in the number of women and minorities occupying seats in undergraduate IT-related studies," Knowling says. "However, these enrollment figures aren't translating to placement in the profession The result is that we have a mass of people who are opting out of IT and choosing other fields not because they don't want to be an engineer but because they don't have access."

Among the barriers identified in pursuit of an IT career is the perception that the profession is one of isolation/working alone, 24/7 and instability. Reality, according to the report, is that creating and innovating are team efforts, that there is a direct line between IT development and business performance, and that the majority of organizations are committed to a balance between work and

For the full report and best-in-class action steps, go to www.itaa.org/workforce.

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Fizzer

continued from page 1

be these days, in [peer-to-peer]," says Bruce Hughes, content security manager at ICSA Labs, which keeps track of thousands of computer viruses and worms and tests to see if antivirus software can eradicate them.

The Windows-based Fizzer worm — which travels by way of Microsoft Outlook, AOL Instant Messenger and IRC, as well as Kazaa — was first seen early this month in Asia and Europe. It's too early to assess damage, though experts say Fizzle is the most dangerous peer-to-peer enabled worm to date in that it can

delete certain antivirus programs and contains a backdoor to let an attacker compromise a machine and record keystrokes.

As of last Thursday, Symantec said more than 150 companies had reported being hit by Fizzer, though not necessarily via a peerto-peer program. Fizzer appeared to be fizzling by week's end.

"This is one of the more complicated worms we've seen," says Mikko Hypponen, manager of antivirus research at antivirus firm F-Secure, which gave the worm its highest alert status."The worm is 200K bytes of code spaghetti, containing backdoors, code droppers, attack agents, keyloggers and even a small

Web server."

That Fizzer can exploit Kazaa, which is considered the most widespread peer-to-peer freeware program with an estimated 4.5 million users, has worm watchers concerned. Peer-topeer programs are hard to detect, so even companies that try to rid their networks of such programs and have policies against them, are at risk.

Peer-to-peer "was designed by the underground community to get through the protections put out by the corporate community," says Doug Jacobson, an Iowa State University professor and founder of Palisade Systems, maker of the PacketHound gateway for blocking peer-to-peer. He says hackers even have created peer-to-peer freeware to take over a victim's machine.

For instance, Kazaa might use TCP Port 1714, and another peerto-peer program, FastTrack, might use TCP Port 1214 to try to make it through the firewall. But if those

Beyond fizzer

Security experts call Fizzer the most dangerous worm to date that exploits peerto-peer programs, but others, dubbed Bibrog and Gibe, also have been discovered this year.

ports are blocked, the peer-topeer applications can switch to Web-based Port 80 or other open ports, a technique known as porthopping to traverse the Internet and the corporate network.

In addition, peer-to-peer appli-

The Fizzer file

When discovered: This month, initially in Asia and Europe, more recently in the U.S.

How it spreads: Kazaa, Microsoft Outlook, IRC, AOL Instant Messenger.

What it can do: Capture a victim's keyboard strokes, kill antivirus products, spoof e-mail addresses, change itself to hide.

What to do if hit by it:

Apply Trojan-removal tools from antivirus vendors, if possible, but might require a complete rebuilding of the machine to ensure it's

cations constantly are being modified, making it hard to detect them, security experts say. Companies such as Check Point, Internet Security Systems (ISS), St. Bernard Software, Symantec and Websense are taking on the peer-to-peer challenge through products designed to delete viruses, perform intrusion detection, monitor at the gateway or lock-out use of peer to peer at the desktop level.

Encryption is being added to some peer-to-peer programs, making them even harder to detect.

"Recently all FastTrack communication has become encrypted and has not yet been reverseengineered," says Jeff Horne, a researcher at ISS.

Monitoring for peer-to-peer at the gateway level is possible — Websense has a gateway appliance to do this (it also does URL and content filtering). And Check Point says the optional

SmartDefense component in FireWall-1 can detect and block peer-to-peer.

But both vendors say the better way to stop peer-to-peer is to block its use on the desktop through the client software that both vendors offer for policy enforcement. These are designed to prevent unauthorized applications from running and monitor for any attempt at violation.

"That's how we caught someone here this week trying to install Kazaa, even though it's not allowed," says Mark Kraynak, Check Point's marketing manager.

"It's easier to block at the desktop level because many of the [peer-to-peer] programs will change the ports they go out on." says James Rhodes, network administrator at Belz Enterprises a real estate firm in Memphis, Tenn. Rhodes uses Websense desktop software, which he says is good, but doesn't catch every variation on peer-to-peer.

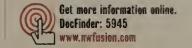
The Billings, Mont., office of the Indian Health Service of the federal Department of Health and Human Services has installed Websense software on a few hundred employees' desktops to prevent peer-to-peer use, says Ryan Macdonald, software developer there.

"We decided to ban [peer-topeer] applications after we found [peer-to-peer] use was at 4G bit/sec of traffic per hour for six hours on our network," he says.

At The Weather Channel, which provides both television and Web-based weather news. peer-to-peer is considered enough of a potential problem that the organization uses a gateway, based on L7 software from Akonix, to detect and block its use.

"We're worried more about [peer-to-peer] copyright violation than computer viruses, but we do want to prevent [peer-topeer] until someone claims there's a legitimate use," says John Penrod, the news channel's network architect. "And that hasn't happened yet."

Bill Wall, chief security engineer at Harris Corp., which makes policy enforcement software for desktops that it says can block peer-to-peer, sums up the issue this way: "People think [peer-to-peer] file sharing is nice and fun. But if you don't set it up exactly right, you can expose the entire hard drive."



Network Associates speeds up Sniffer

BY ELLEN MESSMER

Network Associates this week is scheduled to announce a protocol analyzer that boasts a packet-capture rate four times as high as its previous model and will serve as a platform for forthcoming antivirus and intrusion-detection capabilities.

The s6040, from Network Associates' subsidiary Sniffer Technologies, will capture packets at up to 8G bit/sec via as many as four full-duplex Gigabit Ethernet ports, the company says. The device, which competes with offerings from vendors such as NetScout Systems, will give companies with high-speed networks a view of traffic patterns and application performance by monitoring packets as they zip by.

The appliance, which will cost from \$50,000 to \$100,000 depending on the software modules used, is intended to be the platform for adding McAfee antivirus protection and intrusion detection at an undisclosed future date. Last week, Network Associates completed its acquisition of IntruVert Networks, which will provide the foundation technology for intrusion detection and prevention.

The state of Indiana has been testing a beta version of the s6040 on its Gigabit Ethernet backbone, says Jeff Duke, a senior network engineer in Indianapolis. The s6040 is a much more powerful processor than other protocol-analyzer models the state has used, he says.

"If you could include both [Network Associates'] RMON remote monitoring analysis and intrusion detection in one box it would be great because it would be easier to manage than having them separate," Duke says. He adds that he is less interested in running high-speed antivirus filtering because the state already has antivirus software deployed widely on desktops and servers.

Network Associates also is announcing a new version of its management console, Network Performance Orchestrator, which will be priced starting at \$33,000. The nPO 2.0 console adds multitrace analysis, which lets managers sort through multiple-segment traffic data to quickly identify problems.

Also new is nPOVisualizer 2.1,a complementary product that is designed to be used to determine individual network use for the purpose of chargebacks or to help target cost cutting. It will be priced at \$40,000. ■



Firewalls and antivirus protection are a good start. But if want to secure your network at the core, you need to do more. Test Alliance member Joel Snyder and leading security companies show you how

> to protect the entire enterprise. DocFinder: 5845

Configure

continued from page 16

competitor Intelliden, approaches configuration management via the software route. Companies install it at a central location and then instruct managed devices to deliver syslog messages only when changes are made. Rendition says that by reporting via exception, its TrueControl 2.0 software doesn't weigh down the network.

Gold Wire takes a different approach and offers the Formulator 200 and 200 HA appliances. Last fall Gold Wire asked Kevin Walsh, director of the Next-Generation Internet Application Center at the San Diego Super Computer Center, to take a look at its gear. Now, Walsh says, the product helps his staff experiment and research network performance based on configuration in the academic organization's labs.

"It allows for uniformity in access and in managing configurations across different types of equipment and with different skills," Walsh says. He adds that he'd like to see Gold Wire and others add more support for network gear from newcomers such as Force 10 Networks, which makes 10G Ethernet products. "It's not that difficult to configure it to support other gear as a customer, but Gold Wire will want to offer the broad range of support to its customers," he says.

Ms workWorld 5/19/03 News www.nwfusion.com

Web services

Eart nued from page 1

when the hype meter on the emerging technology was redlining. Now, as we revisit them, Galileo and fellow early adopter Eastman Chemical are sold on the technology and are pushing on. The third organization — the University of California, Berkeley - has shelved Web services for now, although the school expects to return to it down the road.

Paying off

Organizations such as travel agencies and corporate travel planners report development times have been reduced by 80% to 90% for building applications that extract data and execute transactions on Galileo's Global Distribution System (GDS), the hub of its business.

"A single availability call to our GDS has been reduced from 100 lines of code to just three with Web services," says Rick Wiseman, CTO for Galileo.

And they're finding creative uses for Web services that Galileo never imagined, such as automating touchless ticketing for travelers, streamlining corporate back-office operations and altering their workflow processes for more efficiency.

Also, expensive dedicated lines have now been replaced by Internet access.

Galileo says there has been a bigger effect internally, where the Web services slashed the cost and development time of a dozen new products last year by up to 50%.

It has added up to millions of dollars in savings and additional revenue.

Reuse of Web services components and increased flexibility are big themes and have touched off development of an SOA. An SOA consists of application components that live as services on a network and can be assembled in infinite combinations.

The company has built an authentication and authorization gateway it calls Expo and a service brokering engine that will form one secure entry point for all Web services calls to the GDS. which handles 350 million messages per day and more than 1 billion fare quotes per year.

"We will have different conversion capabilities to go from XML to Java and back again, different brokern g technologies, different service-delivery network tech-

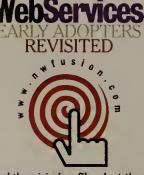
Project particulars

adopters detailed for *Network World* their burgeoning Web

services projects and their hopes for the future. A little more than a year later, two say Web services are turning into a major success, while the third is hoping to revive its project sidetracked by more pressing needs.						
Early adopter	April 2002	May 2003	Outlook			
Eastman Chemical	Web services made East- man's product catalog available to customérs and partners in real time.	Original rollout intact, including hosted infrastructure to ensure security, transactional integrity and nonrepudiation; focus now on building service-oriented architecture for Web services.	Exploring caching, monitoring, process workflow and registry technology to support applications built using multiple Web services.			
Galileo International	Testing four Web services that supply data on itinerary, booking, airport and destination information, and aircraft status after takeoff.	Now 35 customers using Web services to support travel applications; Web services available globally for first time; Galileo is building out a service-oriented architecture.	Customer base growing rapidly; expects to cut costs by 50% based on reusability of Web ser-vices components in developing new applications.			
University of California, Berkeley	Using Web services for unified communications system that ties together e-mail, voice mail and fax in a single in-box with access from e-mail, telephone or mobile device.	Project has been shifted to another platform with an interface that meets require- ments under the Americans with Disabilities Act.	Web services on hold but seen as architecture that will carry infrastructure into the future.			

nologies," Wiseman says. "We will need to validate things like interoperability where we can do logging and so on." He expects to have the SOA reference implementation done this year and a production model in 2004.

"Building toward a common standardized SOA gives us huge benefits for reusability across the



Read the original profiles about these Web services pioneers from last year. www.nwfusioin.com DocFinder: 5944

company," Wiseman says. "As new product requirements come about, you don't have to start from a whiteboard anymore. You can assemble products from existing components."

Seeing the internal light

The SOA idea also caught the attention of Eastman last year. The Kingston, Tenn., company's Web service debuted last year and lets customers get product information in real time instead of the old

way of copying or screen scraping data. That service is relatively unchanged, but it has turned on a new light.

"We started to apply Web services to projects internally and we recognized the need for Web services management as we started to build more complex applications," says Carroll Pleasant, Eastman's principal technologies analyst. He says security, monitoring, caching, process workflow, failover and a registry of available services became necessary after the company built a couple of applications, including one called Management Scorecard that integrates 23 internal Web services.

The application collects financial data, manufacturing information and external data on topics such as federal legislation, and compiles it into one interface for company executives.

"Scorecard has brought us a pretty good understanding around Web services," Pleasant says."After we built the first couple of things, we backed up and said we need a services architecture. we need to know what it takes to put all this together for service component reuse."

The company has appointed an architecture team to understand the SOA design philosophy and investigate what it will take to build one.

"This is a major project and reshaping of the mechanism for application delivery," he says.

So far the team has a prototype that is getting heavy use and is working on how to build the SOA in production.

"We're finding that this can change a lot of what we do internally," Pleasant says. "How does this affect our software quality assurance? Those [quality assurance] tests are done from a user perspective, but what if your Web service does not have a user interface? How do we test that service? It will be a substantial change in how we test our apps because they now may be headless."

The questions intrigue Pleasant because he knows the company eventually will have an SOA in place.

"The whole idea is changing from building a single Web service to building an application that is constructed from a suite of Web services," he says.

Not the right time

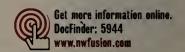
For the University of California, Berkeley, those lessons will have to come later. The school's unified messaging project was piloted on a Web services platform that tied together e-mail, voice mail and fax, and provided a call-routing feature the communications system did not have.

But the pilot project revealed that the user interface did not meet requirements under the Americans with Disabilities Act. and the school had to switch to another product that does not use Web services.

"Web services was working beautifully," says Terri Kouba, systems developer at the university.A year ago, she recognized the flexibility Web services provided in that the university did not have to lock into one product. It could lash together the communications systems it already had, including a leased PBX from Pacific Bell.

Now she has that single product, and she says she hasn't done anything with Web services.

"I would prefer that our new technology be on Web services," she says. "That seems to be the technology that would carry us into the future the farthest."



■ Network World, 118 Turnoike Road

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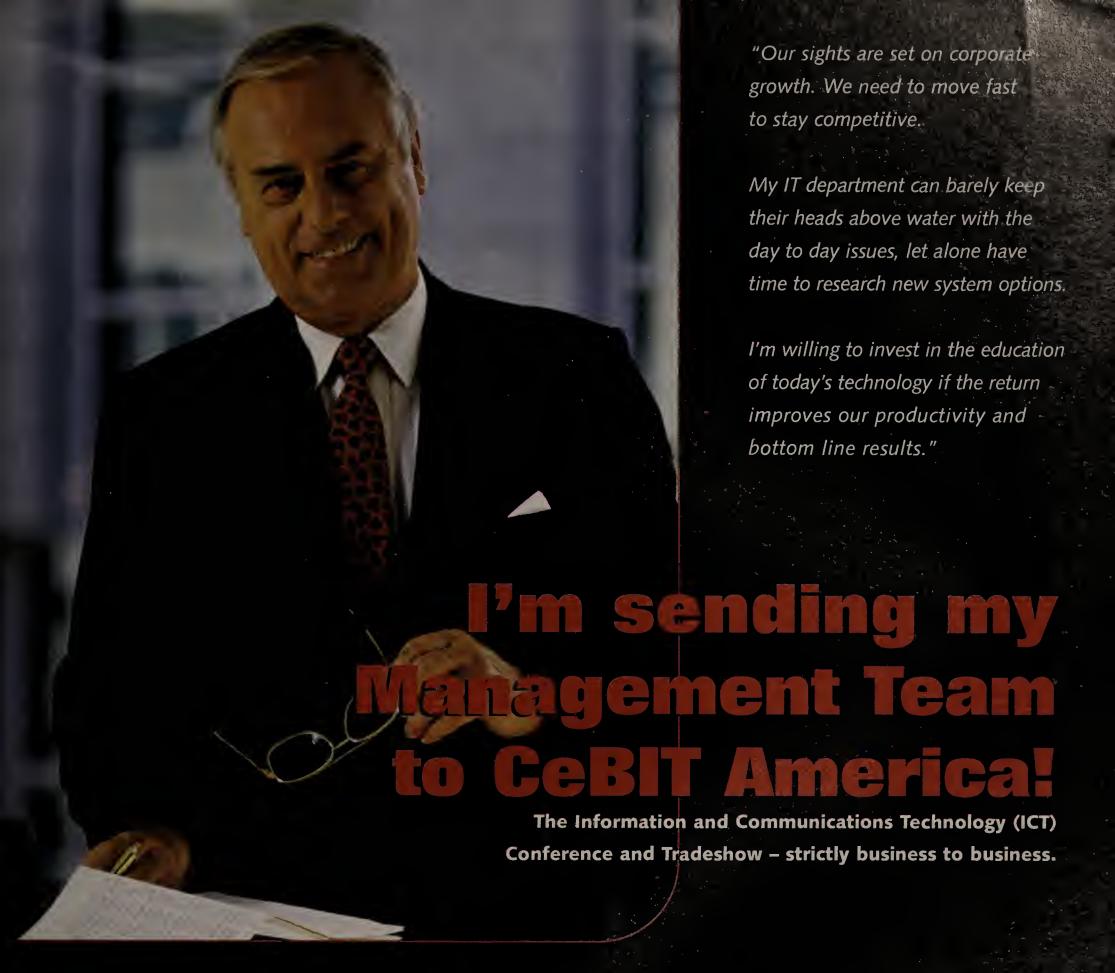




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BackSpin Mark Gibbs



'This OS walks up to a tablet and . . . '

ell it turns out the Associated Press story 1 mentioned last week about Microsoft's U.K. MSN division developing the iLoo, a portable toilet with Internet access, was a hoax, or so Microsoft said last Monday. It was just some crazy joke. But wait. Come Tuesday, Microsoft

was reversing itself again, saying the U.K. office had indeed designed such a product. When headquarters found out about it from news reports, it nixed the project for fear of branding repercussions.

'This was all very odd but it seems so, well, in keeping with Microsoft these days. The company seems to be going in a gazillion directions simultaneously and not thinking everything all the way through. Take Windows XP Tablet Edition.

I opined about tablets many months ago (www. nwfusion.com, DocFinder: 5936), and, at the time, I expressed my doubts about how good XP Tablet Edition would be. Well, thanks to Fujitsu, I have had the opportunity to play with the operating system on quality hardware.

I took an extended test drive after writing about a program called Mind Manager in my *Network World* "Web Applications" newsletter. Mind Manager is for creating and editing "mind maps," which are used to diagram your thoughts on a topic and are a very effective tool for creative thinking.

Mind Manager 2002 from Mindjet (www.mindjet.com/us/) is the best tool on the market, and when the company said it was releasing a version specifically for the XP Tablet Edition I thought this would be a way to test the whole tablet concept.

So I contacted Fujitsu, which loaned me a Stylistic 4110. This is a nice piece of hardware. Arguably a little heavier than the ideal tablet, but it has a reasonable battery life (about 5 hours), a good screen and good performance. The pen also feels pretty good on the screen — just enough drag to be close to paper and thus feel comfortable for writing.

But I have three major complaints. First, when I used it as a notepad on a table and angled it off to the side to line up with my arm as you would a pad of paper, the screen was hard to read.

Related to the screen issues is my second complaint: The pen tip "floats" above the mouse pointer because of the thickness of the screen glass, which makes positioning difficult at times.

The third was that the machine takes too long to wake up. I used it at a seminar and in power-saving mode it would go to sleep. Then when I went to make a note I'd have to wait too long for it to wake up, which made the tablet's use somewhat stilted.

As for MindManager 2002 for Tablet PC, it is a good product; great for taking structured meeting notes,

but limited by the operating system services.

So it is with XP Tablet Edition that I have my big complaints. This version is just XP with support for a pen interface and handwriting input and translation services. Microsoft and most of the pen application vendors don't appear to have thought too deeply about usability.

One of my many irritations about the user interface is that when you tap on a Windows menu with the pen, the menu opens under your hand.

If you try a tablet you'll find that moving the Windows Start menu to the right side of the screen (if you're right-handed) opens menus away from your hand, which is more comfortable. Unfortunately, no such reconfiguration is available for menus in applications that use the conventional Windows user interface.

I contend the operating system doesn't really do what users want from a pen interface. It's like taking a truck, putting racing overalls on the driver, painting a stripe down the side and claiming it's a racecar. It will go, but it won't get there as fast as you hope and the overhead of not being optimized for the task make it, at best, an also-ran.

Perhaps like the iLoo, XP Tablet Edition also was meant as a joke.

Funny stories to backspin@gibbs.com.

NetBuzz News, insights, opinions and oddities

By Paul McNamara

The e-mail never stops

The e-mail has been piling up faster and higher than did the snow this past

winter.... OK, not quite that fast or high, but plenty. Let's share a few excerpts:

Martin Erwin writes to disagree with a column that spanked California

Congressman Darrell Issa for trying to reverse an Army plan to build a wireless
network in postwar Iraq based on GSM technology, which is standard throughout
the Middle East. Issa and others were touting technology owned by Qualcomm,
which also happens to be a major contributor to Issa's campaign coffers. The
issue also got all mixed up in the France-bashing that's in vogue.

"Issa's comments may be self-serving, but there are definitely reasons to support the position," Erwin says. "The European Union is definitely attempting to compete with the U.S., and this is more the issue rather than deployment of a particular technology."

David Smith writes to accuse me of going overboard in support of a handful of small e-commerce site operators who are being unfairly sued for patent infringement. His rather-amusing rebuke included the charge that I had infringed on a patent of his called "Apparatus and method for restraining poor journalism."

"Seriously, there are good patents and there are bad patents. You should not be lumping all patents into the category of bad," Smith writes.

l agree, which is why the column did no such thing.

"Bad patents are very easy to 'invalidate' if, in fact, they are bad," Smith continues 'A request for a re-examination is quite affordable, approximately \$2,500, and can be completely anonymous."

Another reader named Robert takes issue with me suggesting that participants in a new online hobby — baiting Nigerian spam scammers — might have too much idle time.

"I've stopped judging whether people have too much time on their hands,"

Robert says. "Some people watch a lot of TV, some people play golf, some people commute two hours a day, and some people bait spammers. Who are we to pass judgment?"

Interesting philosophy, but in my line of work the alternative to passing judgment is unemployment.

After an unflattering item here about EarthLink, David Schaffer writes to defend — in a backhanded way — the ISP's customer service.

"EarthLink's support burden may be related to the fact that they are the ISP for cable systems, such as Charter Communications, which are completely clueless," Schaffer writes. "I frequently have to call EarthLink support for problems that are really the cable company's because with EarthLink I get an actual technician, not a customer service rep reading a troubleshooting script. Often EarthLink knows that there is a DNS or DHCP problem on the cable system before the cable company does."

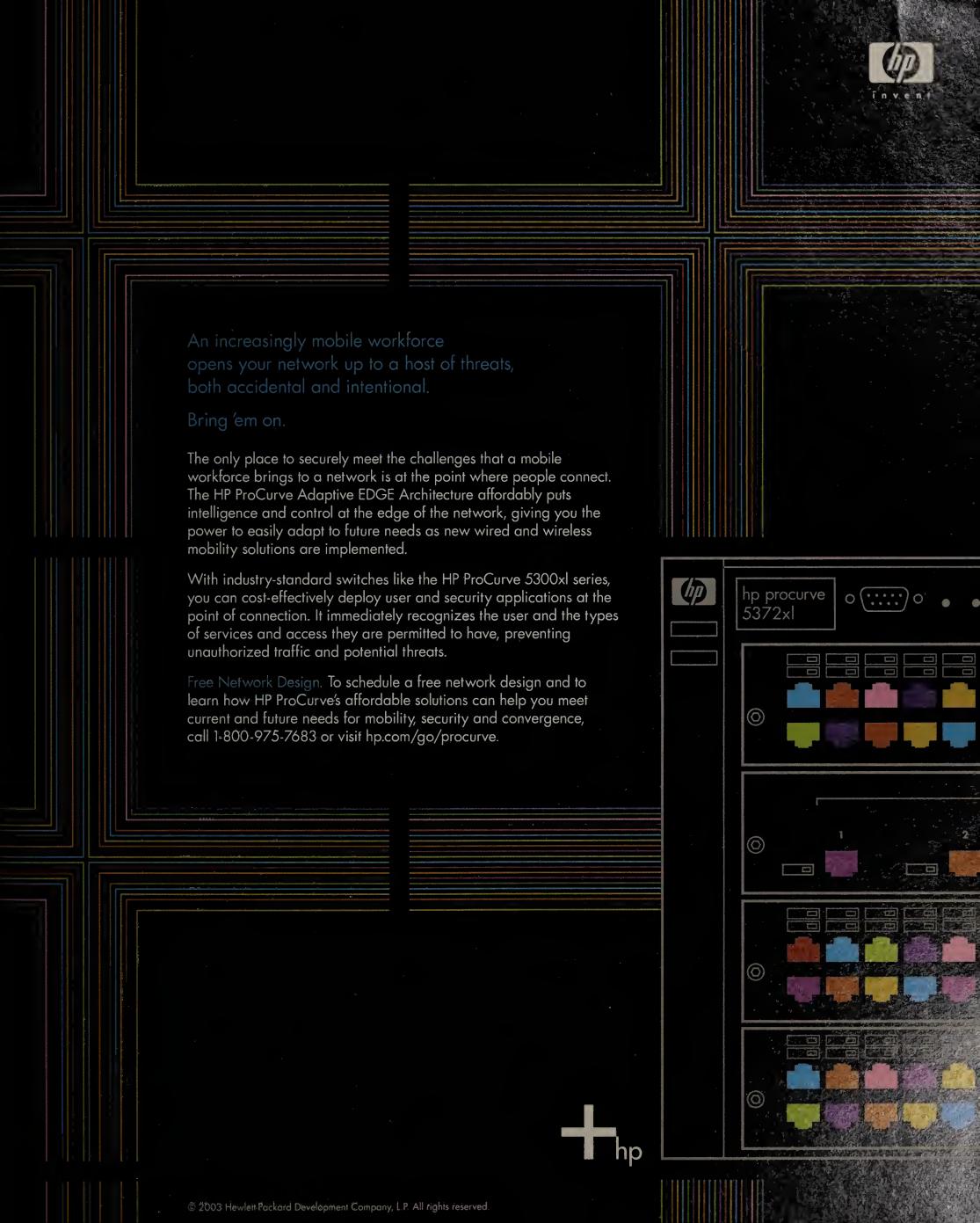
A recent column jumped all over a nationally syndicated writer for poohpoohing the Internet as being much ado about very little. By way of comparison, Schaffer writes, loss of the Internet would be nowhere near as significant as losing the ability to drive.

Reader Jay Jordan backs up Buzz on this one. "If the Internet collapses tomorrow, the far-reaching consequences on communications, financial and military systems would devastate the global economy on a unimaginable level," Jordan says. "And at that point, who cares if I can still drive my car?"

Finally, an item about a forthcoming "smart" wristwatch from Microsoft and three watchmakers had Wei Wang thinking about the practical implications.

"What I wonder, though, is if the watch runs Windows. If so, what happens if one needs to reboot it? Doing Ctrl+Alt+Del on a little watch every day would be really annoying."

Now that we've made room in the in-box, feel free to send more. The address is buzz@nww.com.



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Guten Tag	101101101010
Hallå	001101100101
Aló	101110110101
이보세요	101101111010
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